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LANGUAGE DISTURBANCES

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EDUCATION
MARCH 1959

A Needle's-eye View of Language Disturbance

H. HARLAN BLOOMER
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THERE is a legend that an old king, wishing to leave some of his riches to those who deserved them, and casting about for a simple way of determining the true worth and sincerity of his subjects, let it be known that each subject could have as much gold as he could see through the eye of a needle. His subjects scoffed, for they knew that the few grains of gold they could see through the eye of a needle would be only a small part of the king's vast treasures and not enough to be worth their while. But one small, near-sighted, little girl whose mother had scolded her because she had trouble in threading a needle held the eye of a needle close to her own eye and saw enough of the king's gold to give her a handsome dowry. She married the king's son who was tired of darning his own socks and they lived happily ever after.

Language disturbances can be viewed through as large or as small a visual field as the eye of a needle permits. At a distance from the observer's eye, the child with a language disturbance is little more than an object for frustrated pity. At close range the disturbance and its implications become a fascinating and endlessly varied subject.

Causes of Language Delay

The origins of language retardation in children come from at least three sources which are familiar to all of us: physical, environmental, and personality maladjustments. Among these general areas of causation a few relatively specific factors can be identified as contributing frequently to the disturbance of language development and language function. These include (1) *deafness*, (2) *brain injury* (this is hard to prove in the absence of identifiable physical trauma, but the term is applied to many children who have motor and perceptual difficulties as well as language retardation), (3) *environmental disturbances* such as parental rejection and the social deprivations which accompany certain kinds of institutional care, (4) *mental retardation*, (5) *Psychoses* such as childhood schizophrenia, and (6) the various *maladaptive emotional responses* of a child to his perceptions of a seemingly disordered or unfriendly world.

To understand the problems which attend the examination, diagnosis, prognosis and treatment of the child or adult who cannot talk one needs to take a close look at the nature of speech and

language and the functions which it normally serves in the development and maintenance of our personal and social relationships.

Speech and Language

Speech and language are distinctively human functions without which a person never reaches his rightful place among other human beings. No race and no human culture has ever been known to exist without them. They are so intimately and continuously interwoven with every human act and every perception or memory that society and the individuals who compose it owe their character largely to the development and use of speech.

Speech is composed not merely of "phonemes" (distinctive sound units) but of intonation patterns, accentual stress, and variations in rate and quality of voice each making its contribution to the significance of the moment of communication. Language is not merely vocabulary, but an intricate and complex system of structural units in which sounds, words and sentences are all arranged in meaningful wholes. Speech is more than the "communication of ideas" since its expression or its silence often tells far more about the speaker than he ever intended.

Personal-Social Uses of Speech

Speech is our major means of *expression*. With or without an audience to listen, the speaker normally uses it as a way of relieving tensions. It reflects the internal state of the body and the mind which initiates the speech. Our frustrations and our aggressions often take their most violent physical form when speech no longer serves as a means of this form of release. In other words, speech has an emotional basis in which the *need for expression* is an essential feature. If the feeling of need is missing, speech will be missing too.

Speech is one of our major means of *establishing and maintaining relationships* with other people. We learn this as infants in very fundamental and intimate ways, demanding and holding the adults to us and to the satisfaction of our needs. Later we learn to use this function of speech in much more sophisticated ways as a means of controlling our environment verbally, and we learn the pleasures of conversation for its own sake (the "phatic communion" which Malinowski describes). We use speech to wheedle, command or persuade other people to act according to our wishes. And those of us who become parents or teachers know even better than most the uses of language as a means of imparting information.

Speech is not merely a means of expression and of social control and relationship, however. It is a *means of representing the world to ourselves*. Few of us probably realize the extent to which our impressions of the world are influenced by the verbal "tags" with which we identify and remember things or events. Speech is thus an internalized thing, the tool of thought and the basis of much of our recall of things seen, heard or felt. The words which we use are also chosen to accord with the role in which we picture ourselves, and their very choice often influences the ways in which we behave in our chosen roles.

To achieve such a use of speech we must be able to receive it and perceive its significance. Thus the conditions which govern the development and use of speech depend upon the meaning that speech holds for us. If it has none, we do not acquire facility in using it.

Illustrative Cases

J. K., a five-year-old girl, says only a few words, and has never talked intelligibly. She drools constantly, chews her food poorly, cannot suck, and has poor control of the tongue for gross movements as well as for the fine movements of speech. She tries to talk, but no one can understand her. She seems to hear and understand speech, is bright-eyed, and is able to do most things that the average five-year-old can do except to talk. The tentative diagnosis is one of dysarthria and possible lingual apraxia.

D. P. is a five and one half-year-old boy whose twin talks well and incessantly. There are three other children, all of whom talk well. The twins were premature, and D. P. had surgery at two months which necessitated his being separated from his mother and his family for several weeks. His father is an Army doctor whose overseas assignment required the father and mother to be away from their family at frequent intervals, so that the children were usually in the care of native nursemaids for the first year or so of their lives.

D. P. seems to be overshadowed by the others, is shy and seems insecure away from home, but manages fairly well within the family. He can say a few words, and has lately been gaining a few more through the help of a speech correctionist and the insistence of his mother that he "say the words after me." His family thinks that he hears adequately, although his hearing has never been tested clinically.

He has difficulty in understanding verbal instructions, but seems to be quite adept at the mechanical manipulation of objects. His mother says that almost from the beginning he did not respond to other people in the way that the other children, including his twin, have done. The diagnosis is deferred until further studies can be completed, although there seem to be good possibilities that this is a complex problem involving possible hearing loss, possible brain-damage, and inadequate emotional patterns developing from unfavorable early environmental associations.

J. J. is nearly three years of age and has never said more than "mama" and one or two other simple words and in recent months has not even used those. He has been slow in nearly all phases of development, a fact which his mother recognizes when comparing him to the other seven children of the family. His play consists of pushing a chair about the house, and he will do this for long periods of time without showing interest in any other activity. On one occasion he was pushing a tricycle round and round in the middle of the road in front of his home. A car screeched to a halt, honking its horn loudly, but J. J. continued his play, without paying much attention to the car. His mother thinks that he hears, however.

During his examination it was impossible to elicit signs of interest in any activity except that of pushing a chair. Sounds, loud or soft, brought little more response than a turning of his eyes occasionally. A toy elephant that blew soap bubbles excited only a momentary glance and J. J. soon turned from it to resume his fascinated furniture moving. There is a possibility that he does not hear, but an even greater possibility that sound has no meaning for him. The tentative diagnosis: gross mental deficiency.

Q. S. was a normal seven-year-old child, with normal speech and language

development until a little over a year ago, when he suffered a cerebral concussion and hemorrhage as a result of an automobile accident. He was unconscious for several days, and after recovery of consciousness was partially paralyzed on the right side and unable to talk or understand the speech of others. His perceptions of things other than speech did not seem to be disturbed except that he could not read or print as he had formerly been able to do.

Upon his examination at The University of Michigan Speech Clinic some months later, much of his right hemiparesis was gone, he appeared to understand most speech, was able to print and read somewhat, but still has little speech of his own although he was gaining slowly in this area. Diagnosis: predominantly expressive-receptive asphasia of traumatic origin.

Causes and Treatment

The case histories of such children can be related almost endlessly, each with its own individual characteristics, and each requiring its own approach to management. In many instances the etiologies are obscure, the case-histories are difficult to visualize clearly, and the diagnoses uncertain even after many tests and many periods of observation. Obviously the etiological factors in the cases just cited are quite different. Ideally a special treatment program adapted particularly to the nature of the disorder should be prescribed, but in many instances this is not possible, for practical reasons, and common sense methods must be attempted by a parent or teacher, basing his approach according to concepts that are known by experience to assist a child in differentiating and organizing the significant items of his environment.

It seems obvious that our understanding of each special problem would require that in addition to special examinations, we would need to make an inventory of the extent to which each child receives, understands and expresses speech. In devising ways of extending his uses of speech, we would need to adapt them to the basic personal and social functions which speech and language serve. We would need to analyze the structural components of each child's communication system—whether composed of gesture, intonation patterns of merely direct action.

In the last few years there has been a great surge of interest in matters of language and the problems of children and adults who are without language. Physicians, psychologists, linguists, speech pathologists, teachers and parents are cooperatively pushing aside the veil of confusion and ignorance which has handicapped our approach to the diagnosis and care of the language-handicapped person. Some progress has been made, but greater steps can be taken if we will bring the "eye of the needle'" close enough for us to see the problem in its full scope. In this wide-angled view of language disturbances we will need to consider not only the causes of language delay, but also the nature of language and the functions which it serves. Our diagnosis and our therapy will be more perceptive if we can relate these factors in our search for an understanding of language disorders.

Language Disorders: An Educational Problem

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One of the most confusing educational problems currently a concern to both teachers and parents is that some children, with normal intellectual potential as evaluated by standardized psychometric tests, having severely limited learning abilities for educational basics such as reading, writing and arithmetic. Exploration of the educational histories of these children frequently reveal that they were, in reality, unable to perform adequately in the elementary grades. Their problems remained unrecognized and their inability to comprehend basic educational concepts was not discovered until the intermediate or higher grades.

A number of these same children have had histories of delayed speech acquisition indicating that speech did not begin to develop at approximately one year of age and continue with additional, useful words through the second and third years. Past behavior might include temper tantrums, hyperactivity, unusual sleeping and eating habits, lack of response to sound, and an inability to socialize with their peers. Concerned parents might state that at one time they were convinced that this child was mentally retarded. Then, because of the child's fluctuating response to sound, they decided that he had a hearing loss. But because of apparent responses to sound on numerous occasions and because of behavior problems uncontrolled by discipline, they became equally convinced that some unrelated emotional disturbance was the cause of the disorder.

Not all of these children have had the behavioral characteristics mentioned above; their problems may be much more subtle. Nevertheless, if the child is unable to learn reading, writing or arithmetic *and if* standarized tests indicate that his mental age should adequately equip him for these functions, then somehing is amiss in either the test situation or the child's ability to perform.

Reading, writing, arithmetic and the development of speech have one major factor in common; they are all based upon the reception and expression of symbols. Reading, writing and speech are concerned with *word* symbols; arithmetic with *number* symbols. Problems with these and other communication symbols result in language disorders. It is not enough to exclude these children from school or permit them to continue class attendance without benefit of learning.

It is, therefore, the premise of this discussion that children with language

disorders cannot learn adequately in normal schools as these programs presently exist and that special educational procedures are needed to alleviate or improve these learning problems.

Language Development

Before discussing language disorders, it is important to consider some of the aspects of the development and function of language. Studies of the development of language in the normal child have been expertly reported by McCarthy (2). The majority of these studies are concerned with the development of speech, the growth of vocabulary, or sentence structure and grammatical form. They establish with certainty when the normal child first speaks words, phrases and sentences. We know, for example, that a child usually acquires the use of nouns first, then verbs, and then other parts of speech. We know also that there is a genetic development to the acquisition of sounds; vowels are acquired first and then consonants. However, most of the nomative studies reported are concerned only with the *expressive* aspect of language.

According to Myklebust (3, 4), who has contributed greatly to the understanding of language development and language disorders in children, there are three types of language which the individual must develop for communication purposes. *Inner language,* which develops first, is used to think and organize our thoughts. *Receptive language,* which develops second, is concerned with receiving speech and reading, or used to understand communication from others. *Expressive language* tells others what we think; it is man's method of expressing thoughts in speech or writing. Expressive language development assumes that the inner and receptive languages are well integrated. It is for this reason that children with reading problems (receptive) will also have writing problems (expressive). Bender (1) and Orton (5) have presented some interesting and challenging information concerning reading and writing problems which should have particular importance for educators.

Briefly, we can say that language develops from the birth cry through maturity and is dependent upon the integration of the inner language, receptive language, and expressive language functions.

Peripheral Problems

There are numerous so-called peripheral problems that can impede or delay the normal acquisition of language. Children with deafness or hearing loss will not develop language normally because of their inability to hear sounds or words. The mentally retarded child will develop language in direct relationship to his mental age. The child with an emotional disturbance may ignore sounds and words, withdrawing from all language stimuli around him. It is, therefore, apparent that normal language development depends upon normally functioning sensory pathways, mental abilities and psychological avenues.

Central Language Disorders

The term *central language disorders* refers to the child's inability to use *symbols* for communication. A symbol is an abstraction which represents a concrete object, person, or thing. For example, the word *cat* is a verbal symbol for an animal; *mother* the verbal symbol for a person; *pencil* a verbal symbol for a writing tool.

It is currently believed that central language disorders are caused by cortical damage, insufficient cortical development, or malfunction of the association pathways of the brain. In other words, a central language disorder results from a central nervous system involvement. These cortical dys-functions are not always discernible by routine physical examination and behavioral psychopathology as described by Strauss and Lehtinen (6), may be the only recognizable clue that a central disorder exists. The problem may be present at birth in children with prenatal histories which include, among others, German measles, toxemia, Rh antibodies, or severe febrile episodes. Anoxia at the time of birth is another contributing factor. Encephalitis, menigitis and head injuries can be contributing factors during the postnatal period.

Aphasia, Alexia, Agraphia

Although central language disorders vary in both degree and type, the three disorders most frequently brought to the attention of teachers and parents are aphasia, alexia, and agraphia.[1]

Aphasia or *dysphasia* is concerned with spoken language either in its reception or expression. Although the symptom of aphasia is an inability to understand or produce the spoken word, the problem cannot be considered one of speech production primarily. In fact, many of these children eventually learn speech patterns and talk fluently, but the speech is often random and communicates limited meaning. The problem is caused by the inability of the individual to receive spoken words because of a basic inability to perceive stimuli and classify symbols. The word *apple* may not be comprehended by the child with aphasia, since the word itself has no perceptual meaning and no resulting concept. In the normal development of language, a child may hear the word *apple, cat, dog, ball, milk,* etc., for some time before he is able to associate the name of the object (a symbol) with the actual object itself. If a child has an injury to the brain, or a lack of development of the brain, or an interruption in the association pathways of the brain, he is unable to make this symbolic connection. Because of the problem in reception, he does not comprehend and he is then unable to adequately express himself in words.

Alexia, or *dyslexia* refers to the inability or limited ability of the child *to receive,* understand, and associate *written words* with an object or an experience. This is due to his inability to "revisualize" or "reauditorize" the symbol so that the visual or auditory image of the word is not retained for a sufficient period of time. This results in a reading disorder. He may reverse entire words, reading *saw* for *was,* or *ton* for *not.* He may omit initial or final sounds when reading aloud. He may read whole passages silently and be unable to relate what he has read.

Agraphia, or *dysgraphia* are similar to those disorders discussed above but they describe the inability or limitations of the child to *expressively* associate *written words* with an object or an experience. This, then, is a writing disorder. Agraphia and alexia are interassociated since they are both concerned with written symbols, and it is necessary

1. Some professional persons prefer to use the terms *dysphasia, dyslexia,* and *dysgraphia* to stress the fact that although a problem in the use of symbols exists, it is a partial rather than a total problem.

for the individual to be able to read before he can write. Severe spelling disorders are also associated with reading and writing problems.

Aphasia, alexia and agraphia are all symbolic disorders which interrupt normal language integration and require, without question, an educational approach.

Educational Needs

There are insufficient but at least increased possibilities for the education of the deaf child, guidance for the mentally retarded child and psychotherapy for the emotionally disturbed child. The child with orthopedic handicaps and the blind child are provided for in special classes or programs geared to their specific problems. The child with a language problem appears to stand alone with a learning problem and no educational provision. His problem is often unrecognized, misdiagnosed or not understood. Specific educational procedures must be initiated if these problems are to be reduced in complexity.

Research

The study of language disorders in children is comparatively new but numerous projects designed to study these problems have recently been undertaken in many parts of the country. These investigations, supported by government or private grants, testify sharply to the recognized need for more information concerning learning problems.

One such study was begun in 1956 at The Cleveland Hearing and Speech Center.[2] The histories of some 1200 children were examined. These children were between the ages of three and nine years, and all were known to have severe communication disorders. With a diagnostic team consisting of a neurologist, pediatrician, psychiatrist, audiologist, psychologist, statistician, and three language pathologists, this population was best described by the following clinical divisions:

Hearing loss	264 or 22 per cent
Mental retardation	552 or 46 per cent
Emotional disturbance	156 or 13 per cent
Language disorders	84 or 7 per cent
Undifferentiated	144 or 12 per cent

The children with hearing loss, mental retardation, or emotional disturbance were referred to programs within the Center structure or to an agency designed to manage or treat the problem. The 84 children with language disorders were scheduled for therapy and further study. Although this project is not completed and much of the information obtained is not ready for discussion, there are some salient points that might be of interest to educators and parents:

(1) Children with language disorders require, initially, individual attention to their problem. Individual indices of educational abilities and limitations must be tailored to meet each child's special needs.

(2) Language disorders, perhaps because of the causal factors, tend to be present in multiple form. It is a rarity to find a child with a symbolic disorder without problems in several spheres of communication. It is partially for this reason that a total educational approach to these problems must be undertaken and

2. This project is supported by funds obtained from the Beaumont Foundation and the Department of Health, Education and Welfare. It has been organized as a separate unit within The Cleveland Hearing and Speech Center and is called The Foundation for Children with Language Disorders.

isolated drill on specific aspects of the problem usually result in little or no improvement.

(3) The basic aim of educational procedures for the child with a language disorder is to help him *organize* incoming stimuli so that useful concepts can result. Drill and rote procedures will not serve this purpose. It is not the production of words in either speech or oral reading that is of major importance. Rather, it is the understanding and comprehension of the meaning of these words so that they become useful entities in communication.

(4) Both the teacher and the parents must be well versed in the psychodynamics of behavior so that anxieties, defeatism, frustration, negativism, hyperactivity, and similar types of behavior are understood rather than punished or rewarded indiscriminately or ineffectually.

(5) Language disorders should be detected early in the development of communication processes if maximum benefits are to be obtained from therapeutic and training procedures. The prevention of additional problems becomes a vital part of the habilitation goals.

The diagnosis of language disorders requires a highly trained group of specialists representing many different professional disciplines. Opinions from specialists in the fields of neurology, pediatrics, psychiatry, otology, audiology, psychology and language pathology must be integrated before the initial diagnosis can be made. At the present time, there are several clinics in the country that offer this specialized diagnostic service. A major portion of the initial detection of this problem remains the responsibility of teachers and parents. Until adequate legislation is obtained to support the introduction or expansion of these services in clinics and schools and until more universities are able to train specialists in these complex diagnostic services, the child with a language disorder will continue to be a confusing educational problem.

Summary

The term *language disorders* in children refers to the inability or severe limitation of the child to use symbols for communication. Normal language development depends upon normally functioning sensory pathways, mental abilities and phychological avenues. Aphasia, alexia and agraphia are all symbolic disorders which interrupt normal language integration. The differential diagnosis of language disorders requires special diagnostic services representing many different professional disciplines. Children with language disorders cannot learn adequately in normal school programs until special procedures are augmented to provide for these complex learning disorders.

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Disturbances of Language

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DISTURBANCES of language can profitably be discussed under three headings, according to the age of the patient when the trouble begins, because the causes, the manifestations and the approach to treatment are markedly different in early childhood, young adulthood, and late in life.

Early Childhood

1. Functional

The disturbances of early childhood may be entirely functional such as stammering, stuttering, persistent baby talk, bad pronunciation because of poor training, lisping, hysterical mannerisms, tics, etc., or they may be of organic origin. The functional ones can usually be successfully treated by counselling or by psychiatric help. These conditions will not be elaborated upon in detail at this time.

2. Organic

A. Imperfections of Development. The organic disturbances may be due to many causes. When one stops to consider that a new individual begins as a single fertilized cell not even visible to the naked eye and that by millions of divisions it grows into a complete person, one can readily understand that many imperfections of development occur. One cell divides into 2, 2 into 4, 4 into 8, and 8 into 16 and so on. It is a miracle that the cells form tongue, eyes, brain, fingers and toes correctly, the division stopping just when the tongue, each limb, the nose, etc. are just the right size. To me it is to be wondered at that a nearly perfect individual ever develops.

In a Children's Hospital Neurological Clinic where infants are seen it is not unusual to see one side of the face paralyzed, one side of the tongue innervated, the eyes not tracking together perfectly, etc.

The cell development may be interferred with by poor blood supply in the uterus, by radiation (X-ray) of the mother or by virus infection of the mother early in pregnancy or by blood diseases. Mismated Rh factors may cause serious difficulty. The child may develop hydrocephalus for various reasons and have a head too large to be born.

B. Accidents During Birth. Birth is one of the great hazards of life. In the United States obstetrics is on the highest level in the world but there are many conditions beyond a doctor's control. The placenta may tear loose and thus leave the infant without nourishment before it can be born. The cord may be too short to permit birth and thus tear and cause the baby to lose its blood. The baby may arrive wrong at the site of delivery and necessitate operative delivery. Cesarean section may be necessary, thereby increasing by 7 times the normal hazards of birth. If the mother has deep anesthesia the baby will also

have it and breathing may be difficult for a while. The first born child, the first to use the passage, has a greater birth hazard than any child subsequently born, other factors being equal.

If at any time during birth the jelly-soft cord is compressed for as long as 3 minutes the baby is in danger of asphyxia with subsequent spasticity or epilepsy. Yet in a prolonged labor one can readily see that such an occurrence is not rare and almost impossible for the doctor to prevent. If the cord appears before birth is complete it will be caught between the baby and the mother and labor will then have to be hurried, with injury to mother or baby.

C. Dangers Immediately After Birth. The frail infant, suddenly released into the outer world with a different temperature and on its own for oxygen to breathe has many difficulties. It may need to be placed in an incubator. Now we know that in the past too much oxygen has been detrimental, just as too little may be. It may seem strange that doctors are not able to overcome these hazards but in the centuries that have gone by frail babies were lost in a high percentage of cases. Any infant that the physician can save is simply fortunate. However, we are not satisfied merely to have a live baby; we want a healthy one. Placing our ideals so high makes them so much harder to meet. We cannot always live up to them. When rapid delivery is imperative the baby's head may be injured, spontaneous breathing may be impossible, and caring for an infant with cerebral hemorrhage is a severe responsibility. Left to nature many babies simply die.

D. The First Year. There are many abnormal conditions in a child which may remain undetectable until it tries to stand or walk. The normal movements of babies under nine months look like athetosis (writhing movements) and the inability to walk at the proper age may be the first sign of an injured or ill brain. If the baby-like movements continue after the first year they are abnormal. If the limbs appear spastic when voluntary control should appear the mother may first become aware of spasticity. The mother is then inclined to believe the condition has just developed, whereas it has just been discovered.

E. Disturbance of Language. Inasmuch as a normal child does not talk until about the second year, disturbances of speech may not be noticeable until that time. As some children are normal but slow one does not worry about delayed speech until the age of about 3. A neurological examination at this time should disclose whether the child is spastic, athetotic, or lacking in muscular control of the organs of speech.

Some children are naturally gifted in speech while others without any injury are slow. Some children watch the parent's tongue and lips intently and make voluntary efforts to imitate them. Others can imitate as easily as a parrot without making such efforts. I have seen children reach the age of 4 or even 5 years without talking, then suddenly speak normally. During these early years the parents can have a great influence on the development of speech in the child by slow, careful pronunciation when they address the child and deliberately guiding it to speak. If the parents are delighted at the first crude efforts and do not criticize the child it may become a slovenly talker.

Children who have no paralysis but

whose muscular organization is inferior may have to be shown by the kinesthetic method how to place lips and tongue to produce each sound. A quiet, unhurried, peaceful environment and instruction in good breathing may be necessary.

F. Aphasia. Aphasia is a disturbance of language function due to an organic lesion of the brain. Aphasia is not always complete. Each portion of the language function must be studied separately, comprehension of spoken language, motor speech, reading, writing and language formulation. The brain is made up of 2 identical halves, right and left, but each individual normally lays down memory patterns of language on only one side, the left in right-handed persons. Aphasia does not occur in early childhood unless both halves are diseased or injured because the good half will develop patterns of language. Thus it happens that a child of 5 years, if the language area is destroyed, will have aphasia for a week or two. If he is 10 when it happens he will have aphasia for a few months; then the other side takes over. But at the age of 20 about 2 years will be required for recovery after destruction of the language area of one side.

However, if the child at any age develops a hemorrhage on both sides or meningitis with inflammation of the brain on both sides, or if he has been asphyxiated on both sides, complete recovery of language may not be possible. Here is a great challenge to the therapist. One must remember that we are to work with the area of brain that is left and that a child may show remarkable powers of adjustment.

One of the great problems in childhood is the condition known as congenital non-reading. Children with that difficulty cannot learn to read by sight and must be taught to read by writing. This is the so-called chirokinesthetic method of teaching reading.

Young Adulthood

In young adulthood we meet an entirely different set of causes of speech disturbances. Young adults, especially males, are out in the world of active work with the inevitable industrial injuries and those they get on the road in traffic. They are also subject to illnesses such as brain tumors, multiple sclerosis and veneral disease. They become involved in alcoholism with its brawls and injuries. However, their brain injuries are usually on one side only and when they develop aphasia and the cause has been removed by treatment (perhaps surgery) they are excellent candidates for retraining. Here is where the trained speech therapist has her great field.

Virtually any aphasic if his disease is not progressive, if he has the desire to get well and if his general mental powers are adequate, can have his language restored. This fact was first learned from cases in which patients with severe destruction of the language area of the brain recovered spontaneously. Even persons as old as 70 years have recovered without help.

Late in Life

Late in life the disease conditions which cause disturbance of language are different from those of the other two groups. Here we encounter persons who have had strokes or have had tumors removed from the brain, usually with paralysis of the limbs on the right side.

To understand the condition of such patients we must try to place ourselves in their position. A man of 60 years,

active in life until a week ago, now unable to express himself in speech or writing, unable to read or to understand what is said to him, unable to walk except by hobbling and without the use of his right hand for writing, unable to make a living and knowing nothing about possibilities of rehabilitation, often goes into a severe state of emotional depression and is ready to surrender—even ready to end it all.

Before one can start on the problem one must establish rapport with him and painstakingly try to show him that life is worth while—that he can be helped. A friendly, unhurried attitude of encouragement is essential. Then one tries to teach him to understand language in the same way that one would teach English to an intelligent foreigner whose language we do not know. We show him objects and name them slowly and carefully. One indicates action in words and by gesture so that he associates the gesture with the word. We show him how to pronounce and help him with simple reading. As he becomes able to pronounce one syllable we extend the word by speech and writing. We encourage him to write with the left hand.

In the meantime he receives physiotherapy to save the paralyzed limbs from contractures and get him ambulated as soon as possible, with brace if necessary. The work is extremely slow perhaps but the pace quickens as he learns a little.

Care must be taken not to fatigue him. A few minutes at a time is all he can take at first. If we tire him out we increase the danger of another stroke or of a heart attack. Remember it is better to get a partial recovery than to cause another illness by hurrying. When he finally recovers the reward is great.

BOOK REVIEWS

PRINCIPLES OF COLLEGE AND UNIVERSITY ADMINISTRATION. By Lloyd S. Woodburne. Stanford. Stanford University Press. 1958. $5.00.

Lloyd S. Woodburne is Dean of the College of Arts and Sciences at the University of Washington in Seattle and is well known for his interest and work in the field of faculty personnel policies and problems. In this book he presents a careful study of the operation of institutions of higher education. Here is a detailed analysis of such areas of academic concern as finance, public relations, personnel, curriculum, teaching, faculty welfare, departmental administration, and research. The emphasis throughout is upon leadership and planning. The author looks toward the free flow of ideas as a mark of the effective institution and points out the necessity of mutual respect and good faith among the various disciplines and levels as basic to the maintenance of smoothly functioning channels of communication. The author is careful to point out that the principal work of the college or university is performed by trained professionals and their product is an educated mind.—W. P. S.

LAND BETWEEN: THE STORY OF THE MIDDLE EAST. By Frances Copeland. N. Y. Abelard-Schuman. 1958. $3.00.

The Middle East is the subject of this book and young readers will learn a great deal about the land, the people, the geography, the history and the culture of Lebanon, Syria, Jordan, and Iraq. Miss Copeland writes in an interesting fashion and the photographs and drawings help make this a lively book.—Paul Zankowich

Aphasia in Children

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APHASIA is a collective term that refers to various impairments in the understanding or expression of language which may occur as a consequence of disease or injury of the brain. The impairment may involve oral or written language. When the disturbance primarily involves the understanding of language, one speaks of *sensory* or *receptive* aphasia. When it primarily involves the formulation and expression of language, one speaks of *motor* or *expressive* aphasia. Disturbances in writing are covered by the terms *agraphia* or *dysgraphia*. Impairment in reading as designated as acquired *alexia* or *dyslexia*.

While knowledge of aphasic conditions in association with disease of the brain goes back to the time of ancient Greek medicine, they did not become a subject of great interest until the nineteenth century. In the early years of that century, Franz Joseph Gall (the "father of phrenology" but also an excellent brain anatomist) maintained that centers for speech were to be found in the frontal region of the brain. Gall's idea stood in direct contradiction to the then prevailing doctrine that the brain was a homogeneous organ, all parts of which subserved all types of mental functions. A major controversy on the point developed and continued for fifty years until Paul Broca, in 1861, was able to demonstrate by autopsy findings that there was an apparent association between lesions in the left frontal lobe and the occurrence of motor aphasia. Roughly a decade later, Carl Wernicke related sensory aphasia to the presence of lesions in the temporal and parietal lobes of the left hemisphere.

The sharp surge of interest in aphasia that followed Broca's important discovery was reflected in the publication of many observations on language deficits in children, as well as in adults. In 1866, just five years after the appearance of Broca's memoir, Vaisse described retardation of language development in children who were apparently neither deaf nor mentally defective. He called the condition "congenital aphasia" and advanced the hypothesis that it was due to the same types of focal lesion which caused aphasia in adult patients. In 1896, Pringle Morgan described specific reading disability in a seemingly intelligent 14-year old boy under the designation of "congenital word blindness."

This article will limit itself to a brief consideration of disturbances in the understanding and expression of spoken language in children. It will not be concerned with specific reading disability which is far more common than these disturbances in oral language development and which has received much more attention from educators, physicians and psychologists.

In considering aphasic disturbances in children, it is essential that we draw a fundamental distinction between obviously *acquired* aphasis and so-called

congenital aphasia. Acquired aphasia refers to a loss of language function in a child who has already mastered spoken language. Congenital aphasia denotes the symptom-picture presented by a child who has never had adequate speech. The two conditions are quite different in many important respects.

Acquired Aphasia

Acquired aphasia in children usually occurs as a consequence of cerebral injury associated with either trauma or an infectious disease such as encephalitis. It may also follow a cerebrovascular accident. Neurological findings indicative of a lesion in the dominant hemisphere (i.e., the left hemisphere in right-handed children) are usually present. In the early stages of the insult, the child may be practically mute and show very little understanding of speech. However, as the condition stabilizes, he is likely to show an aphasic disturbance which is somewhat milder than that which would be shown by an adult who suffered a cerebral insult of comparable severity. He will be able to identify common objects, or pictures of them, when their names are given by the examiner. He will be able to repeat short sequences of words or digits. He will be able to name many common objects but will occasionally block or miscall them. He will be capable of conversational speech but it will not be fluent. There will be blocking with failure to produce a desired word or expression (so-called "amnestic" aphasia). Simple oral directions will be followed correctly but more complicated or lengthy ones may be failed.

Thus the typical picture is that of a partial aphasia, involving both receptive and expressive elements, in which the simple language tasks are done adequately, the more difficult tasks are failed, and a certain amount of irregularity and instability in performance is shown. Not only is the severity of the disorder likely to be less than that shown by the adult patient but recovery from the aphasia is more rapid. In adults, the period of recovery may vary widely but it is seldom less than several months and may extend over years. In children, the period of recovery will range from a few days to a year or two, but in the majority of cases practically complete recovery will take place in a few weeks. The recovery may be spontaneous or it may be aided by deliberate speech rehabilitation. Such rehabilitation follows the principles used in work with the aphasic adult. Adapted to the individual child, it is designed to increase his auditory understanding and his speech production. The child is exposed to auditory and visual material which is carefully controlled in respect to length and rate of presentation and he is required (or helped) to make the appropriate verbal or non-verbal response. Naming, following of oral directions, counting, repetition and answering questions are among the usual exercises.

The characteristically moderate language disturbances shown by aphasic children and the relatively rapid recovery from the aphasia are usually explained on the basis of the plasticity of the child's cerebral organization. It is assumed that, when the dominant hemisphere is damaged and aphasia ensues, the subordinate hemisphere rapidly takes over the language-mediating functions of the damaged hemisphere. Stated in another way, unilateral cerebral dominance is not as fixed in the child as in the adult with the result that, when one hemisphere is damaged, this flexibility

in dominance comes into play as a compensating factor. Substantial support for this idea is provided by clinical observations on children with congenital or early acquired deficit of one cerebral hemisphere or the other. Children with such unilateral injury are not aphasic, even when the left hemisphere is compromised. Indeed, the whole left hemisphere can be surgically removed in a young child without causing a lasting language deficit.

Congenital Aphasia

The observations which have been made on acquired aphasia in children have important implications for our understanding of the condition which is known as "congenital aphasia." The very term itself is a matter of some dispute. There are clinicians who deny, on both semantic and empirical grounds, that there is such an entity as congenital aphasia. The semantic objection is that aphasia means a *loss* of language skills and that therefore it is meaningless to speak of aphasia in children who have never had the skills. This objection, taken by itself, would seem to be rather trivial. We do not hesitate to speak of a congenital cerebral palsy or congenital blindness although they mean the "loss" of the power of voluntary movement or of sight, and we need not hesitate to speak of a congenital aphasia *if* such a condition exists.

The empirical objection is more important since it raises the question as to whether a condition which can be reasonably called congenital aphasia actually exists. Specifically, it denies that congenital retardation in language development is truly comparable to the acquired aphasic conditions of childhood or adult life.

Congenital aphasia is the name given to extreme language retardation in children who are aparently neither deaf nor mentally defective. This retardation typically involves receptive as well as expressive functions, that is to say, the child speaks very little, if at all, but also shows limitations in his understanding of spoken lanuage. There may, however, be a significant discrepancy between the level of ability to talk and the level of ability to understand spoken language. Thus a totally mute child may show by his behavior that he understands quite a good deal of spoken language.

The condition usually attracts attention when the child is 2-½ or 3 years old, i.e., at an age when it is clear that he should be able to talk and to understand language. In many children, the retardation fortunately proves to be a transitory one, a sudden spurt in language development occurring at the age of 4 or 5 years so that the handicap is overcome in a relatively short time. On the other hand, the condition may persist indefinitely and thus present an extremely serious problem to the child and to everyone concerned with his welfare.

In order to make a diagnosis of congenital aphasia—or specific language retardation, to use a term preferred by some workers—it is necessary that the condition be distinguished from mental deficiency. This differentiation is not established as easily as might appear at first glance. To make the distinction, one compares the status of non-language abilities (e.g., handling of spatial material, psychomotor skills) with language abilities. The child with a specific language handicap ought to perform on a normal or near-normal level in the non-language area. For example,

if a five-year old child scores at an average level in formboard performance, copy designs, and non-verbal memory tasks, yet shows gross retardation in language functions, the diagnosis is clear-cut. However, he is more likely to show some degree of deficit in the development of non-language skills, even though their level is appreciably higher than that of his language skills. One reason for this is that the development of these "non-language" skills is by no means independent of language function. As anyone can determine for himself, by introspection, verbal processes play a role in the mediation of many "non-language" performances, e.g., remembering abstract designs by labeling them as a "diamond," "rectangle," "two big circles and a small square," etc. Hence the child who is deprived of internal language may well suffer a retardation in the development of these skills.

It is also known that mentally defective children, like other children, may show considerable uneveness in the level of development of various skills. Some mental defectives have a fairly adequate development of language functions (e.g., vocabulary, verbal fluency) while their performance on non-language tasks is grossly defective. Others show the opposite pattern—a fair development of non-language skills with gross retardation in language functions, e.g., a performance IQ of 80 and a verbal IQ of 50. The latter pattern is often encountered in the so-called "familial" type of mental deficiency. These and other considerations have led some clinicians to consider "congenital aphasia" as a particular type of mental deficiency rather than to attempt a sharp separation of the two conditions.

Congenital aphasia further implies that the observed language retardation is not a result of hearing loss, i.e., that the child is not "deaf." This distinction is also not quite as easy to make as one might think. The accurate determination of auditory acuity is notoriously difficult in children with low intelligence or language disability. When careful examination is done, it has been found that many congenitally aphasic children do suffer from a partial deafness which involves the higher sound frequencies. As a result, the appreciation of speech sounds may be markedly impaired. However, not all congenital aphasics show this high frequency hearing loss. Thus, it may well be that there are quite different etiological backgrounds for congenital aphasia. This implies quite different methods of treatment and education according to the etiological type one is dealing with.

Emotional disturbance has also been invoked as a major cause of congenital aphasia in children. This point of view is based essentially on two types of clinical observation. The first is that aphasic children are likely to show a variety of emotional disturbances. They may be overtense, resistive and withdrawn, and have temper tantrums. Obviously, such disturbances might well be a resultant of their distressing langauge disability. However, it is also possible to take the position that these disturbances represent a primary personality disorder which also includes the language retardation as one expression. Secondly, autistic or schizophrenic children almost invariably show disturbed language development both on the receptive and expressive side. Indeed, their reactions to speech and other meaningful sounds in the environment are of such a nature that, as with the aphasic child, the question of hearing

loss is often raised. It is generally accepted that the language deficits of these children are not primary but rather a specific symptom of a fundamental personality deviation. Generalizing for this, some clinicians have conceptualized congenital aphasia as the focal and predominant expression of an underlying personality disturbance.

Congenital aphasia differs in many important respects from acquired aphasia in children. First, it is generally far more severe. Secondly, beyond a certain age, it is not likely to disappear spontaneously. Thirdly, it does not yield as readily to re-educational efforts. Finally, the specific causative agent (or agents) is different. In acquired aphasia, specific damage to the dominant hemisphere is quite evidently the cause of the language deficits. But, for reasons which we have already mentioned, this type of unilateral cerebral damage cannot reasonably be postulated as the cause of congenital aphasia. One has to assume that there is at least damage of the speech areas in *both* cerebral hemispheres to account for congenital aphasia. This is a possibility but one which as yet has no substantial evidence to support it.

It is obvious that we deal here with a rather complex problem. Detailed and comprehensive evaluation is called for when one encounters a child whose behavior raises the question of a congenital aphasia. A thorough general physical examination, neurological assessment and a careful evaluation of hearing capacity should be done. Equally important is a thorough psychological evaluation which goes beyond the determination of the IQ to assess the pattern of intellectual abilities and disabilities shown by the child and in which considerable attention is paid to his emotional status and personal adjustment. Treatment of the child will depend upon one's interpretation of the findings. It may take the form of the type of speech rehabilitation offered to patients with acquired aphasia, or the type of education adapted to a partially deaf child, or psychotherapy may play the major role.

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Teaching Aphasic Children

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APHASIA IN CHILDREN

At Central Institute for the Deaf there has been a program for the diagnostic assessment and teaching of aphasic children for over 30 years. The primary feature of the program has been the *teaching of aphasic children.* At the present time we are actively engaged in teaching over 100 children we consider to be aphasic. There is an enrollment of 60 in nine full-time classes for aphasic children, and an additional 60-75 aphasic children are receiving intensive individual teaching on an out-patient basis.

In this article I shall discuss what we at Central Institute mean by aphasia in children, what we find to be characteristic of the children we have classified as aphasic, and some of the basic principles of the procedures we have used in teaching aphasic children. The discussion will be confined to children who have little or no ability to use or comprehend language. While it is true that many of the less severe problems in reading, writing, speech and language encountered in regular schools may be properly classified as mild forms of aphasia, such problems will be excluded from this discussion.

Definition

Until the last 10-15 years most writings on aphasia dealt with aphasia in adults, i. e. the losses in speech and language which follow strokes, cerebral hemorrhage, cerebral thrombosis, or severe head injury. The definition of aphasia should not be confined to "losses" of ability in language for there are among children certain failures in the development of language which can be classified as aphasia. The condition of aphasia may be defined as *a defect in the ability to use or to comprehend language which is the result of a deficit in the central nervous system rather than the result of hearing loss, muscular paralysis, mental retardation, or sever emotional disturbance.* The problem of differential diagnosis frequently is quite complex for defects of hearing, muscular control, mentality, and emotional disturbances may accompany aphasia in various degrees and combinations.

Although aphasia was defined above as resulting from a deficit in the central nervous system, evidence of a pathological condition in the central nervous system other than that gained through assessment of the child's language, hearing and intelligence, is not essential to our classification of a child as aphasic. We base our classification primarily upon the discrepancy between the child's development of language and his level of hearing and intelligence.

In one study (1) about half of the children we had classified as aphasic presented essentially negative case histories from the standpoint of etiology, neurologic signs, and EEG records. Among the children we have classified as aphasic, those with neurologic signs of central nervous system pathology, those with acquired aphasia (3) i.e.

losses of speech and language previously developing normally, and those with negative case histories all have essentially the same difficulties in learning speech and language and all present similar symptoms with respect to the discrepancy between the child's development of language and his level of hearing and intelligence. The failure to develop language in the presence of adequate hearing, mentality, and emotional integrity is, in our opinion, sufficient indication of central pathology to warrant the classification of aphasia.

Frequently aphasic children are described as being "brain-injured" or the terms aphasic and "brain-injured" are used synonymously. This leads to confusion. The term aphasia refers to a specific kind of deficit in language ability. The term "brain-injured" is very general and may include individuals with problems ranging from severe cerebral palsy to abnormal EEG patterns without other obvious defects. Also, the term "brain-injured" connotes general intellectual defect which by definition is excluded from the classification of aphasia.

Some authors, particulary Mykelbust (5,6) have listed a number of non-language problems as characteristic of the aphasic child. Among these non-language characteristics are: failure to grasp the true meaning of surroundings and experience, failure to differentiate parents from other adults, distractibility, hyperactivity, disinhibition, perseveration, emotional flatness, and social detachment. While some of the above problems may exist in varying degrees in some cases, we do not consider such problems as *characteristic* of the children we have classified as aphasic. We recognize that the aphasic child frequently presents erratic or deviant behavior in addition to his lack of language, but we feel that such behavior problems result mainly from the confusion and frustration of his and his parents' reactions to the handicap. It is our impression that most of the aphasic children enrolled in our teaching programs are relatively normal in all respects except for their inability to communicate through language.

Types of Aphasia

Aphasia in children falls into two major categories—expressive or motor aphasia and receptive or sensory aphasia. *Expressive aphasia* is characterized by:

1. Lack of expressive speech and language
2. Adequate understanding of speech and language
3. Limited one or two syllable patterns of vocalization
4. Partial or complete inability to imitate tongue, lip, and jaw actions, sounds or words
5. Absence of muscular paralysis
6. Adequate intelligence for speech

The expressive aphasic child can understand what is said to him but he cannot reproduce the patterns and sequences of sounds. He knows the words he wants to say but he cannot negotiate them as motor speech sequences even though he has apparently normal musculature. Usually a limited pattern of one or two syllables is repeated whenever the child attempts verbal communication. Vocal inflections vary appropriately with what the child is trying to express. The expressive aphatic child relies on pulling, pointing and gesturing for expressive communication.

Receptive aphasia is characterized by:

1. Lack of understanding of speech
2. Lack of expressive speech
3. Discrepancy between the ability to hear and the understanding of spoken language
4. Discrepancy between intelligence and the understanding of spoken language

Many receptive aphatic children may be mistakenly thought to be deaf for they do not respond to speech and often ignore sound. It has been our experience that the receptive aphasic child learns poorly if at all when taught as if he were deaf. The parents of receptive aphasic children may think their child is deaf, or they may be confused because the child seems to "hear at one moment and not the next." Most receptive aphasic children respond to sound inconsistently and thus are difficult to test for hearing. Some however give ample evidence of having hearing within the normal range. The receptive aphasic child may have any degree of hearing loss in addition to the aphasia. Many of the children we have classified as receptive aphasic have moderate losses of hearing plus aphasia. When an aphasic child has a severe hearing loss the presence of aphasia may not become apparent until the child fails to learn when taught as deaf or hard of hearing.

Intellectually the receptive aphasic child may range from retarded to superior. On the basis of non verbal intelligence test scores, the children we classify as receptive aphasic, with very few exceptions, are above average in intelligence and many are superior. At levels of intelligence below dull normal, the classification of aphasia becomes, by definition, inappropriate. When a child presents the combined handicap of moderate hearing loss and moderate mental deficit he may well exhibit the characteristics of receptive aphasia but to classify such a child as aphasic reduces the specificity and meaning of the term.

The characteristics listed above for expressive and receptive aphasia describe *conditions,* not individual children. Each individual child possesses those characteristics in varying degrees and combinations, frequently complicated or obscured by behavior. The diagnostic classification of some children can be made only after observing the child's response to teaching. All diagnostic classifications are subject to verification and revision during and after teaching.

Teaching procedures

The objective in the program for aphasic children at Central Institute for the Deaf is to prepare the children for entrance into regular schools as near the appropriate age and grade level as possible. Following are some of the basic features or principles of the procedures we use for teaching the children we have classified as aphasic. The principles as stated to the teaching of both expressive and receptive aphasics.

I. *We feel that the basic problem of the children we classify as aphasic is a deficit in speech and language.* Our work with each aphasic child begins as directly with the teaching of speech and language as that child's behavior will allow. From the very beginning, the teaching of speech and language is the base and core of our entire program for aphasic children and the most significant dimension in our final evaluation of the success of our work with each aphasic

child is the extent to which he can communicate through speech and language.

II. *Our procedure is analytical.* We always proceed from the simple to the complex. We begin our teaching of speech and language with the units of sounds and letters. The child is taught to produce individual speech sounds. Each sound is associated with its written letter symbols. Once the child has gained the ability to produce the sounds of the language from the written form, the basic tool has been established for use throughout the remainder of our work with the child.

III. *There is systematic sensory and motor experience through the four specific skills of reading, writing, speaking and understanding speech.* Visual experience is provided through reading written language and carefully self-monitored writing. Motor and kinesthetic experience is provided through the requirement for carefully produced and accurately self-monitored articulation of all phonetic elements. Auditory experience is provided through practice in differentiating and identifying words and language through hearing alone and through accurate self-monitoring in speech. Each of the visual, auditory, motor and kinesthetic experiences mentioned above is developed *separately* and associated with the others through systematically structured drill and experience.

IV. *We use oral expression as the starting or base point in building language.* The child is first taught to produce individual sounds from the written form. He is then taught to produce sequences of sounds which make up words. The child is not expected to recognize and understand any words through reading, lipreading or hearing until he has produced the words orally himself.

The basic sequence of teaching new vocabulary or language is as follows:

1. The new language is presented to the child in written form.
2. The child reads it aloud in carefully self-monitored speech.
3. The meaning of the new unit of language is demonstrated in context through structured lessons.
4. The child is required to use and reproduce the new language in oral and written form in the same context as it was presented in the structured lesson.
5. Situations are created in which the child must use the new language appropriately in more spontaneous, less structured contexts.

Other writers (5,6) have suggested that for the receptive aphasic, emphasis should be given to receptive language (or comprehension) and that when receptive language is established, expressive language will naturally follow. We have found that for the receptive aphasic, comprehension develops more completely when there is specific attention given to expression. Also we have found for the children we have classified as receptive aphasic, that expressive ability does not "naturally" follow the development of comprehension. An essential point concerning our emphasis on oral expression is that when the child is expressing verbal symbols orally, he is required to monitor his expression carefully. While receptive auditory activity may be primarily sensory, carefully self-monitored verbal expression can result only from an integration of both sensory

and motor capacities, thus providing receptive as well as expressive experience.

V. *We use a variety of visual cues and devices to aid the child in his memory for and learning of important principles and relationships.* Cursive script is used in order to emphasize visually the continuity and grouping of letters and sounds into word units and at the same time to emphasize the individuality of each word unit.

Color also provides important visual information. During the child's beginning drills and words, two colors are alternated for each phonetic change. The child soon learns to tell at a glance the number of sounds and the points of phonetic change in the word by observing the alternating colors. This information is particulary important since many sounds are spelled with two or three letters.

Later, particular language forms are emphasized by the use of contrasting colors within sentences.

The five principles discussed above represent the most basic features of the procedures which have been developed and used at the Central Institute for the teaching of speech and language to aphasic children. The procedures themselves are organized into a highly structured and systematic progression through definite levels of ever-increasing linguistic complexity.

Prognosis

The results of more than 30 years of teaching aphasic children at the Institute leads us to feel that, in general, the prognosis for aphasic children is good. The objective of preparing these children for entrance into regular schools as near their own age range as possible has been accomplished to a large extent. There are, of course, those for whom this objective has not been accomplished. Most of those for whom the objective was not accomplished were children whose problems were complicated by deficiencies of intelligence or hearing of sufficient magnitude that regular school placement would have been inappropriate even without aphasia. On the basis of our past experience, it appears that the aphasic child with normal intellectual potential who enters our full-time program between the ages of 4 and 6 has a good chance of entering a regular school near his own age group by age 10. The children dismissed from our full-time classes between 1945 and 1955 on whom test scores were available (4) had an average age at dismissal of 10.5 years and an average grade equivalent of 3.6 (on standardized school achievement tests). Prognosis in any given case will be limited by:

1. Limitation in mental ability
2. Hearing losses
3. Age beyond 5 years of beginning of education
4. Emotional instability
5. Inadequate home situations or parent cooperation

Finally, it also has been our experience that the children we have classified as expressive aphasic have a poorer prognosis as a group than those we have classified as receptive aphasic. Intelligence seems to be the major factor in this poorer prognosis for the expressive aphasic group for a large proportion of that group have IQ scores in the dull-normal or lower range of intelligence.

Conclusion

In closing one important point should be made regarding the education of aphasic children. While we believe that

the prognosis for aphasic children is good, we base that belief upon the experience accumulated in the program at Central Institute. In broader perspective, the prognosis for aphasic children is in reality, poor. Not because appropriate remedial measures are lacking but because the number and availability of appropriate educational programs for aphasic children is extremely limited. Public education in the U. S., with the exception of perhaps half-a-dozen communities provides nothing for the aphasic child. Even the mentally retarded, grossly unprovided for through public education, are incomparably better provided for than are the aphasic.

The aphasic child has the potential for educated, useful citizenship. At the present time this potential can be realized only by a few. We feel that in our program we have demonstrated that the aphasic child has a good prognosis. We look forward to the day when we can be less and less exclusive in this demonstration.

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BOOK REVIEWS

PUBLIC RELATIONS FOR TEACHERS. By Doyle M. Bortner. N. Y. Simmons-Boardman Books. 1959. $4.75.

The purpose of this book is to help the individual teacher to understand his unique function and his responsibilities and opportunities in the important and vital area of school public relations. In addition, there are numerous suggestions involving both principles and techniques that will give the teacher the help that he needs in an area for which he may have received little or no training. The author is modest in stating that his book is no comprehensive treatment of school public relations nor does he claim that it is a handbook for the complete organization and administration of a total school public relations program. It is a volume, however, that the classroom teacher will find both practical and useful. Teachers are aware these days of sound public relations, but too frequently they do not understand how they, as teachers, can forward these relationships. The volume contains chapters on building public relations through contact with pupils, with parents, with the community, with colleagues, and with local teachers' associations. The role of the principal in public relations, too, is discussed. A most useful book.—W. P. S.

GUIDANCE FOR TODAY'S SCHOOLS. By Charles R. Foster. N. Y. Ginn. 1957.

This all-inclusive text in guidance is designed for both counselors and teachers and for those in service. The approach is eminently practical and it presents some very specific procedures and suggestions to assure the successful adjustment of students in the home, the school, and the community. The emphasis is on all students and not merely on those who present acute or chronic problems. Much stress is put on the vocational aspect of the guidance and especially on the question of vocational choice. Throughout, the part of guidance in the total learning process is pointed out. Guidance is the responsibility of the teacher and the parent, and of the community itself, according to the author.—W. P. S.

Teaching the Child With Delayed Speech

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Introduction

THE inadequate speech development of some children suggests the possibility of organic deviation. By examining the type and extent of language present, the diagnostician can often reach some conclusions about the cause of the disorder, and the teachers and therapists can discover where to begin in helping the child toward normal language goals. But what of the child who does not talk at all?

From time to time anxious parents bring children of three, four, five and even six years without speech or perhaps a two- or three-word vocabulary to the teacher or speech therapist. Sometimes there is already a reliable diagnosis on record to explain the child's lack of speech: he may have been found deaf or mentally retarded or emotionally disturbed or brain-injured. Sometimes there is more than one diagnostic report in the folder, revealing that the experts have disagreed among themselves. Perhaps there has been no satisfactory diagnosis. The procedures for differential diagnosis among the factors most often responsible for delayed onset of speech have been described thoroughly (2, 3).

When the therapist, teacher and parent have reliable diagnostic information, they are, admittedly, in a better position to understand the child, plan for his training and interpret his responses to training (1). In my experience, however, some basic principles apply to the speech training of children without speech, whatever the original cause for the delayed language problem. The most useful techniques I have found for beginning language training for such children come from the established methods of teaching the deaf. To begin with, I will discuss three principles of teaching language borrowed from these methods.

Concepts

No matter *why* the child does not yet speak, the teacher or therapist should begin with teaching *concepts*. It is easy to see that with little deaf children the teacher must begin with concepts instead of speech sounds or even words. Because the deaf child cannot hear language spoken, his store of language concepts upon which to build his own speech is inadequate. The therapist (or first, the parent) starts by teaching him that "things" have "names"; that objects and ideas can be distinguished from one another and yet are related to one another ("milk" is something you "drink"; a "shoe" goes on a "foot"; "blue" is a name for many things of similar but not identical hues; a "ball" goes "up" and then falls "down"). Attempts to teach the deaf child to speak are based on his *understanding* of language concepts.

If deafness has been ruled out in the diagnosis of the child without speech,

it is assumed that he can understand the language he presumably hears. But is this a safe assumption? Other causative factors, such as mental retardation, emotional disturbance or brain injury, also serve to limit or impede understanding of speech. Even supposing none of the above factors is operating at the time of beginning therapy, there is still one reason to expect such limited understanding—the lack of speech itself. That is, a child's understanding of language is limited to a large extent by his own ability to use that language. He may, of course, know more than he can say—but that is true of everyone.

The point is that the beginning of language learning will be based on linguistic concepts that are simple and unmistakably clear in the child's mind. Thus the teacher should begin with activities and games involving simple ideas that the child can understand quickly. "In" and "out," for example, can be taught easily with the use of a jack-in-the-box that the child likes to operate.

Sounds

The first words to be taught should also be chosen from the standpoint of what speech sounds they contain. The first words developed in the deaf child's vocabulary are usually characterized by simple articulatory patterns and are easy to read on the lips. The reasons for choosing such words ("baby"; "mommy"; "up"; "more"; "bye-bye") are several. Easily lipread words are more easily understood by the deaf child. He can also imitate such words more easily and be more intelligible when he tries to use them.

The delayed speaker who is not deaf also needs help in understanding, as we have seen. When visual clues are added to the auditory clues of spoken language, the child has a better chance of recognizing new words. Also, like the deaf child, he needs to begin with words that are easy to say. He will have more success imitating words with easy lip sounds such as listed above (by the way, these are the sounds that appear earliest in the normal speech development of children). Early successes are very important at this stage. Furthermore, no matter how old the child is, if he has never spoken he cannot be expected to have good control over the articulators—lips, teeth, tongue, etc. This fact means that his first attempts at speech will be poor. On words like "more" and "up" he will have more success and can be more easily understood than if he tries words like "green" and "sister".

A delighted mother of a child just beginning to learn to speak once told of the time she had taken her little boy to a neighbor's house, where he had been given some ice cream. When he finished his portion he loudly yelled "more!", his only word at that time. The startled neighbor said to the mother, "I see he can talk now!"

Familiar Experiences

Beginning lessons with the child without speech should center around his own familiar experiences. This principle is an old one in the education of the deaf. As early as possible, they are taught their own names and the names of members of the family. Names of parts of the body and articles of clothing come into early lessons. The explanation is that such language items are at the same time most useful to the child and most interesting to him.

This approach is also applicable to the child with delayed speech who is not deaf. The materials for his early

training should be based, not on alphabetical lists of words ordinarily in the vocabulary of a child his age, but on the very language items found in his everyday experience. Like all children, he is most interested in things concerning himself. For example, pictures of members of his own family (including himself!) can be absorbing material for many lessons.

The Older Child

These are some of the early principles of teaching the child without speech borrowed from the education of the deaf. However, later on, the child who has by now developed a considerable amount of speech may have difficulties with more advanced linguistic considerations. Here again, some of the methods of teaching older deaf children may prove useful. The history of a child whose speech was severely delayed in onset may shed light on some of these later problems and their solutions.

Bobby K. was first brought to the speech therapist at the age of six years. He had no speech except for some poor attempts to say his own name. No adequate diagnosis for his lack of speech had been made, although he had been seen by various specialists (eventually a diagnosis of childhood aphasia was agreed upon). He was a cooperative child who followed directions well, so that a hearing test could be satisfactorily completed. His hearing was found to be normal. He was the youngest of six children, the others having had reportedly normal speech development. His parents spoke both English and German. Earlier attempts at speech therapy had been unsuccessful.

Bobby had no apparent difficulty adjusting to the lesson situation. He participated in all activities willingly. Bobby often tried to tell the therapist about his experiences, and was often successful at making himself understood by using grunts and gestures. He was alert and good humored at all times. The results of non-verbal tests showed him to be of normal intelligence.

From the very beginning Bobby learned steadily. Early lessons involved games and activities to teach the concepts and words, "more", "up", "down", "baby", "ball", "big", "little", and familiar names, colors and numbers. Bobby's attempts to reproduce these words were usually very faulty. He distorted vowels as well as consonants, and surprisingly had the greatest difficulty with consonants at the beginnings of words. The speech sounds were taught to him in their developmental order (p, b and m were taught first). He had to be taught the difference between voiced and unvoiced sounds. His attempts to speak continued to be poor, but improved enough so that he could be understood with some difficulty. He began to pick up some words not taught to him at the speech clinic. His mother and his sister (one year older) helped him by reviewing the vocabulary items from his lessons at home.

Bobby always attempted to use whatever language he had. As his vocabulary grew, he became adept at expressing a great deal with only a few words. He was easy to engage in conversation. Bobby also began to learn to read. When he first came to the clinic, he had been able to print his first name (better than he could say it). Because the printed word was always used as an aid in teaching language, it was easy to introduce reading activities. These early attempts to build up a ready vocabulary were also successful. In school, however, Bobby was relegated to a back seat because he was unable to keep up with the older children.

There was steady progress in language development until Bobby was nine years old. At this time he seemed to reach a lengthy plateau in learning and was dropped from clinic enrollment for a time. A year and a half later (Bobby now just eleven) he returned for reinterview. He had progressed further in language learning, but his mother hoped that still more could be done to

bring him closer to the standard of speech development for his age. At this time informal examination revealed that Bobby's speech was now intelligible for the most part and also grammatical, and that he could discuss most topics with an occasional searching for words. He often seemed to have to pause to think of the word he wanted, but usually found it at last. On the debit side, the following comments could be made about the speech of this eleven-year-old boy:

1. His vocabulary was limited, although he managed surprisingly well with the language he knew.

2. Although his speech was not ungrammatical, it was telescoped and not always colloquial in structure, as if he had to find a way to use just the words he knew and express his ideas in fewer words than normally used. For example, he might say, "Next week I will go to Washington," instead of, "Next week we are going to Washington for the weekend."

3. His speech had a staccato, word-for-word rhythm that was almost completely lacking in familiar stress patterns. This was especially true of his attempts to use less familiar words.

4. He still had some distortions of speech sounds, including some vowel distortions, which, together with the odd rhythmical pattern kept him from being entirely intelligible.

Which of these observations could not be made of the speech of a deaf child of equivalent age and training? At this stage, then, techniques from the education of older deaf children may be found useful.

Bobby was accepted for further speech training. More advanced activities were brought into the lessons. Vocabulary development was continued, the specific items chosen from sixth grade word lists and incorporated into games, discussions and reading exercises. Common contractions such as "I'll" and "can't," and common phrases, were taught to make his sentence structure more colloquial. Natural speech rhythmn was taught by analyzing the essentials of "strong" and "weak" and "long" and "short" sounds of words and syllables, and relating these variables to the meaning of phrases and sentences. Bobby understood these considerations easily and learned to apply them. The improvement of specific speech sounds was done incidentally as these matters came up in the lessons.

The results were obvious and encouraging. Bobby's speech improved steadily in all the areas listed. As formerly, he seemed to make good use of everything he learned.

At the present time Bobby is still attending the clinic, now concentrating on increasing vocabulary for both reading and speaking.

Final Considerations

In summary, then, many of the principles and techniques for teaching language to deaf children may be adapted for use with children with normal hearing who nevertheless do not develop speech at the expected age. This is not to suggest, however, that such children should attend schools for the deaf; children who can hear should be exposed to good speech models and associate primarily with children with normal speech development.

The understanding and broadest application of the principles and techniques discussed above result from attention first of all to how language develops in children who do not begin to speak at the expected age, and only secondarily to the reasons for this delay in any one child.

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Why Johnny Can't Hear

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BEFORE man had developed a system of written symbols, he had perfected a method of instantly communicable acoustic symbols: a system by which he could orally transmit information regarding himself and his activities to his fellow man. His listener, whether man or beast, reacted. The reaction could take many forms, some obvious, some questionable, some subtle. Undoubtedly, even before man listened to the utterances of his companions, he listened to the world of non-men; water falling, ice cracking, animals roaring, and trees sighing in the wind.

This ancient special sense of hearing can be traced back to the lowly fish and today one whole branch of marine biology is studying the "language" and "hearing" of these primitive creatures.

While such and related studies are fascinating and yield much understanding of the evolution of human hearing, what we hear today in our present emergent state of being is the case in point.

Two words are used to express an auditory response to sound—hearing and listening. Technically speaking, hearing means a psycho-biological response to an auditory stimulus: biological in the sense that the organism receives a pattern of airborne pressure waves, translates them in several stages to nerve impulses, which travel to the cortex, or integrator, of the brain; psychological in the sense that the brain interprets the meaningfulness of sound. Listening is a term which connotes more activity on the part of the receiver. In fact, a new term, "auding" or aural comprehension, may even supplant "listening" as a more operational term in educational circles.

Regardless of the frame of reference, hearing for speech emerges as the principal function of the auditory mechanism in man. Parenthetically speaking, it is interesting to note that such a phylogenetically old system serves the much newer system centered about the speech mechanism.

Placed in current concepts of information theory, the hearing apparatus monitors the output of the speech mechanism by a process of control. This control system makes it possible for the normal speaker-hearer to check constantly on the accuracy of his verbality (output) in terms of any particular context or environment. If components of this circular circuit are defective, the monitoring function may be either disturbed or even absent.

Such defective auditory monitoring extends from hearing loss to deafness; a continuum from mild to profound deficit in hearing acuity. Hearing loss or *hypacusis* is used to describe any loss which is potentially correctible by either

medical or prosthetic techniques to a practical hearing level. Total deafness, or *anacusis,* may describe either profound loss or acoustic nerve dysfunction which cannot be corrected by medical or prosthetic techniques to a practical hearing level. A common educational term for the hypacusis patient is "hard-of-hearing." Whatever the definition, the ear specialist (medical otholologist) assumes responsibility for the diagnosis and enlists the aid of a team composed of the non-medical audiologist and the teacher to successfully plan a program of habilitation.

Hearing Loss

Hearing Loss assumes many forms. One kind, called *conductive,* may be described as a more or less even diminution of all tones, high and low, with the result that speech sounds faint to the listener. The reader may stimulate this type of loss by occluding the ears with ear plugs. Fortunately, this type of loss may usually be remedied by newly perfected medical and surgical techniques. Birth defects and even missing parts of the outer and middle ear can be reconstructed to perform their function adequately. New types of medications, such as those belonging to the "antibiotic," antihistaminic and corticosteriod families, may control and reduce infectious processes that at one time called for radical correction leading in some cases to further loss.

Briefly stated, new techniques in field of otology have been so uniformly successful that they have revolutionized the treatment of the person with the conductive form of hearing loss.

Paralleling these advances in medicine have been great strides in hearing aid design. With the invention of the new "transitor" (a highly efficient type of amplifier) modern hearing aids are almost always effective in helping the person with a conductive loss to better hearing in those small number of cases where medical or surgical methods are not feasible. Because of their relatively small size and high power handling capacity, even wearing two such instruments poses relatively few comfort problems to children when the loss warrants amplification to both ears.

Other children with hearing loss may not be quite so fortunate. They may have a loss designated as receptive, or nerve type. Some sounds may be understandable while others are distored beyond recognition. Take a ruler and cover the bottom half of the words on this line and try to figure out the meaning of what is left. You will recognize by spacing and deductive methods what the line reads, but with some question. On the next line cover three-quarters of the words. You may still be able to figure out a few words, but probably not all of them. Try to shift your thinking now to the possible complications that might arise in hearing such a distorted or incomplete message.

However, what useful hearing remains may supply the necessary cues necessary for speech reception and rather than belaboring what is lost, treatment is directed towards what is left. Too often, parents have reacted to the label "nerve loss" as if absolutely nothing could be done when, in reality, the area of actual loss contributed little if any information to the reception of speech.

By experimenting with electronic circuits, engineering teams, with the help of hearing specialists, have developed hearing aids that have helped many children, but not all of them. In other words, it must be remembered that a

hearing aid is just that—*not a new ear.*

Deafness

While it has been demonstrated clinically that only a very few children have absolutely no hearing, that majority classified as deaf have some residual hearing, usually for low pitched tones only. The information carried by such tones may have little or no relation to tones in the speech range. Even if these tones are amplified by the use of powerful hearing aids, they still may not convey enough information to make speech intelligible. On the other hand, because deafness is almost impossible to stimulate, even in the laboratory; just the "on-off" cues may, along with the cooperation of other senses, supply minimal information.

Probably the most important "extra-auditory" sense in communication lies within the visual system. The process by which the eye can help the ear is called lip-reading or speech reading. While not much is known about the "why's" of lip-reading, much research has gone into methodology to the point where even preschool deaf children can be taught. Too, the sense of vibration, especially through the fingers, materially supplies information which when compounded with residual hearing through amplification, kinesthesis and and vision provide usable communication channels to the deaf child in a hearing world. From such sensory cooperation the child may get the "gist" of a spoken message, enough to fill in many of the blank spaces in the communication situation.

Perhaps another type of apparent deafness should be mentioned. This type, sometimes called *aphasia,* or *verbal agnosia,* or *word deafness,* or *congenital receptive aphasia,* may often be mistaken for deafness. The child apparently receives verbal messages but cannot integrate them meaningfully. This may lead parents and teachers to believe that the child is intellectually retarded. Such children need careful medical work-ups and require a team composed of the otologist, pediatrician, neurologist, clinical psychologist, speech pathologist, and audiologist to insure a program of practical habilitation. Only recently has this type of deafness comes to the attention of the researcher. With new advances in electrophysiological instrumentation, research in this area promises to be richly rewarding to the imaginative scientist.

Detection and Diagnosis

Losses occurring after speech has developed as an automatic form of behavior are largely self-detected. Children may not reveal this fact to their parents or teachers and may develop conscious or unconscious ways of defending themselves against close scdutiny by compensatory forms of behavior, such as inattentiveness, giving wrong answers, avoiding speech situations, aggressive hostile acts against other children, or even to the point of withdrawal from reality.

These are danger signs to be brought to the attention of responsible specialists. It is very difficult to decide whether a small child "won't" talk or "can't" talk, and immediate steps should be taken to secure a medical opinion.

The child born deaf or acquiring loss in early infancy poses problems almost insurmountable. To begin with, the medical profession had little or no instrumentation until most recently to reliably estimate whether loss in these early months was present or not. The diagnosis had to be deferred until the

child could visibly respond to sound stimuli, and those intervening early years are most important to the reinforcement of speech comprehension. A refinement or modification of a physiological technic called *GSR* (galvanic skin reflex) made it possible for the otologist to add a relatively "objective" test to his clinical armentarioum. By involuntarily conditioning an infant to respond to pure tones it is now possible to get some measure of hearing acuity within the first year of life. Such early diagnosis makes it possible to plan efficient programs of habilitation for the child and the parent.

It must be obvious to the reader by now that detection and diagnosis of hearing loss and deafness is basically a medical responsibility; specifically that branch of medicine referred to as otology, or the practice and treatment of diseases of the auditory system and related organ systems.

More recently, a new field, audiology, an encompassing discipline concerned with the total study of hearing and deafness, has expanded the understanding of the hearing process. Audiologists may be otologists, but are more often people trained in clinical audiometry, psychology of hearing and deafness, experimental methodology, and the nonmedical rehabilitation of the deaf and the hard-of-hearing. Leading medical centers throughout the country now employ audiologists to work with the medical otologists, thus providing a truly interdisciplinary approach to problems of hearing impairment.

Perhaps a word of warning regarding selection of hearing aids should be inserted at this point in the discussion.

The buying public apparently has an idea that surely with so *many* hearing aids on the market it just becomes a matter of bargaining to secure an aid and there is, after all, only *one* kind of hearing loss. Nothing could be farther from the truth. Children, especially, must be examined by the otologist prior to the purchase of an aid. The otologist may find, as is often the case, that a relatively minor surgical procedure or medical treatment will suffice to restore practical hearing. Many hearing aid manufacturers not only support this practice, but instruct their sales divisions to enforce it. It must also be remembered that the placement of the hearing aid on the child does not guarantee good hearing; but is only an early step toward the acquisition of good hearing habits. Better hearing must be *learned* under the guidance of qualified special teachers.

The "big job" however, is the one accomplished by specialized teachers in the schools. Upon their shoulders fall the great day-to-day responsibilities. They are the ones who must exhibit the patience and understanding so important to work with the "exceptional" child. Too, they must be available for consultation with classroom teachers and parents. Their educational background must not only include an understanding of educational goals and policies, but also of the utmost importance, a specialized curriculum, including basic study of speech and audiology, child growth and development, psychology of hearing loss and deafness and specialized methodologies in lip-reading, auditory training, and language. They must be aware of the possibility that the auditory sense may not be the only impairment and that other sensory and motor areas of the nervous system may be affected. For example, both cleft palate and a form of cerebral palsy, *athetosis*, exhibit significant lacks in auditory acuity. This

places tremendous demands on the teacher in terms of specialized training —not often commensurate with (economic) remuneration.

In summary, "Johnny Can Hear" if his parents and teachers will help him. They can help by being sure that only the best medical and educational facilities are available to him. They can help by trying to understand the isolation which may separate him from the hearing world. They can help by supporting organizations whose aim is in turn, to help the public understand problems of hearing loss and deafness. They can help by trying to understand their own behavior toward these children. With self-understanding comes enlightenment; with enlightenment comes progress. Johnny Can Hear.

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Group Psychotherapeutic Remediation in Aphasia

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Historical Perspectives

APHASIA is a defect in the power to communicate through spoken or written language, due to injury of the brain. "Cerebrovascular accident," commonly known as "brain shock," is its most common cause. Other common causes are accidental head injuries, and head injuries incurred in war.

Increasing age is a most important predisposing factor to "brain shock." When we consider the ever-increasing average age of our population we become rudely awakened to the high frequency of "cerebrovascular accident" with aphasia as its frequent residual disability. Head injuries due to traffic accidents and war injuries are another scourge of our times. Here too, aphasia is a frequent resultant. Patently, the problem of aphasia is enormous! It poses problems not only for education and psychology, but for government and for society.

The treatment of aphasic language disturbance due to brain damage must be accomplished at three levels concurrently. The first is the somatic or medical level, within the province of the physician. The second is the level of language reeducation and instruction. The third is the level of social and psychological treatment. Too often omitted, it has direct bearing upon language reeducation and complete rehabilitation in aphasia. This third level *must* be coupled to the language reeducation, with a firm linkage.

Group *reeducation* procedures in aphasia are not new, but the group approach as social and phychological therapy for aphasic patients is of recent origin. Backus and Dunn (4) noted the importance of social experiences for the patient with language disorder. Supervised social experiences enable him to relearn the social techniques of communication. These experiences help him to overcome adverse inner psychological attitudes which retard his progress in speech. Backus (2, 3) emphasized the importance of the psychological climate in the classroom if good progress is to be made in speech reeducation. There is much need for activities which strengthen group cohesion. Such cohesion leads to better morale of the individual patients in the group.

The remedial educational method for aphasia should be a *total* one and not merely a routine mechanistic reeducation. The individual patient's social definition of his life situation; his frustrations and his motivation; his past and present course of life; all must be evaluated, and integrated into the total remedial program. The aphasic person's need to speak is most powerfully motivated within the *group* situation. The

interpersonal pressures and demands of the group may therefore facilitate his social and language recovery. Nielsen (8) described a comprehensive model treatment program which included mental hygiene and phychological conditioning. Within this milieu the language reeducation attained high success. Similar treatment programs have been conducted by the United States Army (7, 9, 10). Wepman (11) showed the importance of full social and psychological therapy for the aphasic patient. Blackman and Tureen (5, 6) found that group psychotherapeutic discussions acted to reduce permanent invalidism of hospital patients with aphasia.

A Demonstration Project

Language reeducation for the aphasic is best begun as soon as medically feasible. This means that the course of remedial education is initiated while the patient is still hospitalized. It is continued through that period and on into later phases of recovery.

Over a trial period of some four years, we have conducted a demonstration project with aphasics in a general medical hospital. We have found that the *combined* effort of educational speech instructor and clinical psychologist working together does constitute a highly effective medium.[1] The educational speech therapist provides individual speech instruction to the aphasic patients. The clinical psychologist and the educational speech therapist, acting as co-leaders, conduct weekly group meetings with those same aphasic patients. The mechanics of speech retraining are deemphasized in the group program, for the patients are already receiving individual speech instruction. The primary orientation is toward the patients as persons who experience emotional difficulties in adjusting to their environment—emotional difficulties associated with the presence of a severe speech disorder. The optimal group size is ten members at any one time.

Treatment Methods

Early in their group program, patients may show overt signs of frustration when they attempt to speak in the group. They employ several defensive maneuvers on this account. Most commonly they try to withdraw from this situation which makes demands upon speech. Increasingly they rely upon nonverbal techniques to make known their desires. Efforts to develop a group therapeutic program therefore meet with considerable initial resistance. Hence, one must introduce a variety of activities designed to attain a sympathetic bond and strengthen it among the patients. These activities constitute a continuum from the non-verbal at one pole (e.g., rhythm group) to the fully verbal at the other (e.g., group-centered discussion). Interest is seldom sustained in any single activity. Activities and techniques must therefore be shifted from time to time in order to maintain the group's interest and cohesion. These techniques are described below in sequence from the least verbal to the most verbal.

A. *Music rhythm group:*[2] Music is a universal language in that all people can

1. This project has been reported in detail elsewhere (1). By kind permission of the Editor of the American Speech and Hearing Association, some portions are reproduced in the context of the present article. Dr. M. Aronson and Mrs. J. Cook are thanked for their unstinting efforts in behalf of that project and its report.

2. Rhythm group facilities and music materials are provided through the courtesy of the Musicians Emergency Fund, Inc., New York. Special acknowledgement is made to Miss Gladys Douglas-Langmore, Director Hospital Program, and Mr. Wallace Kotter, Director of Special Projects.

respond to it on some level, even if that level be but primitive rhythmic motor beating. The use of rhythm instruments by the patients, played to the accompaniment of well-known marches, waltzes, and popular songs is quite helpful during the initial phase of this program to attain a feeling of group unity. So reluctant are patients to talk, that the simple matter of introductions is a difficult task for the group. Rhythm band activity serves several purposes: (1) It is a group activity; each patient therefore has the opportunity to work with others; (2) it is a vehicle whereby the individual patient releases pent-up feelings through motor action; and (3) it emphasizes rhythm, an essential aspect of speech.

B. *Group singing* has the same rationale as rhythmn group, with the further advantage that it employs speech and voice. All participate, even when this means but to hum along with the group. Old familiar tunes occasion the least difficulty for aphasics.

C. *Story time* is introduced after the patients have become comfortable in the verbal situation. Stories by well-known writers such as O. Henry are read to them. Discussions of the meaning always ensue. One short mystery by S. S. Van Dine is particularly successful. After hearing the story and all essential clues, the group becomes quite active in its analysis of the tale and in its attempt to ascertain the villain.

D. *Speech games* help the patients to utilize their verbal abilities and permit us to observe their reasoning power. A form of "Lotto" permits direct focus upon vocabulary. The interpretation of proverbs helps us to estimate the abstractive ability of the various members. Speech games may yield clues to personality structure, and often give rise to emotionally charged discussions.

E. *Puppets* provide opportunity for creative fantasy and drama. Puppet characters of different "roles" are used and informal participation is encouraged. We have the "hero," "heroine," "villain," "father," "mother," and so forth.

F. *Tape recordings* are used both diagnostically and therapeutically. They permit the patient to evaluate progressive changes in his speech. The recording and hearing of one's own speech is always a new experience. Each patient approaches the recorder with some apprehension, and occasionally the recording session may constitute a threatening experience. This does *not* constitute reason for omitting the use of this equipment. Reactions to playback vary. Two patients have become depressed and tearful; several have been heartened because their speech is not so bad as they had suspected. Each person is recorded individually, but in the presence of the whole group. The group is always attentive to the procedure, which elicits much interested discussion. Words of encouragement and praise are given sincerely and spontaneously by the members of the group. This leads to sympathetic understanding among the members.

G. *Group-centered discussions* occur with increasing frequency as self-confidence grows and as the sympathetic bond strengthens between group members. A variety of feelings are explored, including attitudes toward each other, toward group leaders, and toward the hospital personnel and routine. The illness is discussed in terms of its implications for economic and/or social dependence upon others. The patients

evaluate their physical limitations and their problems of interpersonal relationships. Gradually they perceive themselves against the background of family and society. There is movement away from fixation upon speech *per se,* to a consideration of self as a person confronted with the problem of adjusting to everyday living.

Refreshments are served at all meetings and successfully enhance the informal social atmosphere. All the above methods are presented in varied sequence, according to the developing needs of the patients. Non-verbal techniques are emphasized initially. These blend slowly into the verbal methods of later meetings. Considerable variety is necessarily employed to maintain the group at a reasonably high pitch of stimulation and interest. Complete reliance upon group discussions alone is not feasible. Occasionally the group carries on spontaneously for several sessions, but retrogression invariably sets in. When this occurs it is essential to introduce a planned activity to help the group reestablish integration and unity. Hence, this pool of varied techniques is always held available and employed with flexibility in order to maintain maximum motivation.

Results

What are the results of this joint psychological approach by speech educator and clinical psychologist?

The aphasic patients' reactions in this project have been measured by a variety of methods. Individual questionnaires and intensive interviews have been administered by the psychologist to all participating patients. Complete records have been kept of group interactions and group dynamics. Hospital and rehabilitation personnel working with these patients have been interviewed. The psychologist and educational speech instructor hold periodic joint staff conferences where qualitative observations and evaluations are coordinated.

All findings distinctly indicate a favorable response to the program. The patients express strong desire to continue it. There had been some early initial resistance but this had quickly disappeared.

The ability to accept the self, and to laugh with others, has been a most important achievement of this group approach. Rigidity, tension, and self-pity are diminished in the laughter of a group drawn together by a common bond. The gradually developing group cohesion is accompanied by a change in group attitude from distrust of group psychotherapy to a feeling of welcome relief at the weekly opportunity for self expression and exchange of personal problems.

The majority of hospital personnel treating these patients express a distinctly favorable attitude toward the group program. There has been unanimous recommendation that the program be continued. There is general agreement that the program yields numerous beneficial effects, that it increases aphasic patients motivation for speech, and that it helps prevent further deterioration in speech and in interpersonal relationships for these patients.

General Observations

The aphasic patients' identification with the treatment group is achieved but slowly. In addition to the usual adjustments necessary for adequate group relationships, the aphasic patient is handicapped in his ability for communication. This constitutes a formidable barrier to interaction. However, when the patient discovers that all present have

speech difficulty he shows greater evidence of striving toward group identification. Should he be totally inattentive throughout several meetings, then we must suspect general progressive deterioration. This is a definite indication for discontinuance from the group.

Since group therapy helps to reduce anxiety in aphasic patients, it assumes practical importance from the standpoint of speech retraining. With the concomitant aid of group psychotherapy, more time in individual speech sessions may be given to instruction and less to support of the patient's ego.

Periods in group therapy where the tape recorder is employed, are productive in two ways. First, members of the group give encouragement to inexpressive patients by praising them for their efforts. This leads to more persistent striving by the patient during his individual speech. Secondly, it increases his ability for self-criticism. This is important for the patient who does not "hear" his own defective speech.

The speech instructor has noted a carry-over from individual lessons to group sessions. The instructor ordinarily has few avenues to ascertain how well the speech reeducation is being carried through to group situations. Group therapy provides a social speech situation where the speech instructor observes his patients' ability to translate into actual communication the skills he has been learning.

The very idea of damage to the brain is a fearful one. The aphasic, naturally threatened by this, often ascribes his condition to other less anxiety-provoking causes. He may attribute his communication difficulties to "bad teeth," or "bad hearing," and so on. Nevertheless, he can be brought to a realistic explanation of his defect. It must be a simple explanation, carefully phrased, and given in an atmosphere of support and reassurance.

Aphasic patients are and must be carefully prepared for changes or innovations in their group program. They are informed of the reasons for a new activity. The group leader's attitude is most significant here. Only as he takes the new venture seriously does the patient also view it so.

Homogeneous groupings are made when feasible. The grouping together of patients with the same degree of communication impairment leads to faster group progress than does a heterogeneous group which includes both mild and severe degrees of impairment.

Volunteer non-professional assistants can make a fine contribution in a variety of ways. They provide and serve refreshments. They contribute to specific programs by leading group singing and playing the piano for rhythm band sessions. Their very presence lends a sympathetic, informal atmosphere to the meeting. This is important to all patients and *especially* to those who have few contacts beyond the walls of the institutional environment.

In this report we have stated the importance of a combined approach to the treatment of aphasia. The educator and the clinical psychologist must work hand-in-hand. Psychological attitudes and problems of motivation are intimately related to progress in the reeducative process. We have not even attempted to outline the important role of psychological testing and psychometric assessment in the comprehensive remediation of the aphasic patient. This lies beyond the scope of the present article, and deserves a complete discussion in its own right.

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Language Disturbances In Cerebral Palsy

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A palsy can be defined as disturbance of control of the muscles of neurological origin. Palsies may be of peripheral, spinal cord or intra-cranial origin. The intra-cranial or cerebral palsies are differentiated from the cord or peripheral palsies because of the complexity of conditions of brain origin. In peripheral and cord palsies, there is, of course, a crippling condition of an arm or leg such as in poliomyelitis, which is a cord palsy, and in cerebral palsy, there is also a crippling condition, but also a multitude of other problems as a result of disturbance in function of the cranial nerves. Disturbances of speech and language are one of the most frequent parts of the picture.

The speech mechanism, being almost entirely controlled by the nerves of cranial origin, is affected in 36% of the spastics, 67% of the athetoids, and 56% of the others in cerebral palsy. The problem is to determine whether the absence or defect in the speech is a part of the cerebral palsy or an independent unassociated difficulty. In order to decide, it is necessary to know the varieties of speech difficulties found in cerebral palsy.

Mechanical Difficulties with Control of the Muscles

The definition that cerebral palsy causes difficulties with control of the muscles of intra-cranial nervous system origin, indicates that speech may be involved in all of the types of cerebral palsy.

In spasticity, the problem is that of increased stretch reflex. Thus, when a muscle is contracted, its antagonist is stretched and this stretching causes contraction of the antagonist, blocking the motion of the original muscle voluntarily contracted. The musculature involved in the total mechanics of speech includes the muscles of breathing, abdominals, diaphragm and intercostals; the laryngeal muscles, the epiglottis, tongue, jaws and lips, and any or all of these may be affected by the spasticity and show increased stretch reflex. Involvement of the intercostals results in more or less immobility of the thorax and hence attempts at over-action of the abdominal-diaphragmatic air exchange. On the other hand, involvement of the abdominal-diaphragmatic groups, results in "reversed breathing" in which the diaphragm is pulled down simultaneously with contraction of the abdominals. This results in very little air exchange and the breathing becomes intercostal and speech is forced and strained. Reversed breathing may be the result of other causes and is seen in some stutterers not having cerebral palsy.

Very occasionally spasticity of the larynx has been seen. Closure of the larynx causes a rise in pitch of sound

and in these rare cases, each word attempted begins at normal pitch but is finished in a very high pitched squeak.

Involvement of the epiglottis is often observed. In this situation, the slowness of response of the muscles of closure results in a nasality resembling closely the type of speech heard in clef palate. Involvement of the tongue tip and lips prevents the use of many of the consonants so that in severe instances of this type, the speech consists of vowels only with use of the "k" sound for all consonants.

The athetoid type of cerebral palsy is characterized by the presence of involuntary motions of various types. These motions can affect the various parts of the speech mechanism as well as the arms and legs. When the involvement is in the muscles of breathing, the speech is irregular in volume and often strident when the subject attempts to control the flow of air with tension. Frequently there are involuntary motions of the tongue and lips, which interfere sufficiently with phonation as to make the speech unintelligible at times. Many of these patients can speak almost perfectly when at rest and among members of their families, but cannot make themselves understood in strange or unusual situations. The training of these in relaxation alone often improves the speech immeasurably.

The ataxic type of cerebral palsy shows loss of directional control on attempted motion but no involuntary motion. In attempting to reach for an object, the motions are inaccurate and fine skilled motions such as writing are difficult. Here the eyes help a lot by steering the arm to the object. When the tongue is ataxic, directional control within the mouth is difficult and the speech is characteristically slurring or drawling in type. In this connection, it is interesting to find that some languages such at Italian or Spanish are much more normally spoken than German or English in some of these children. However, the speech is slow in any language. One child from New England spoke with an accent that suggested Alabama, although he or his family had never been there!

The remaining type of cerebral palsy is that characterized by rigidity and in this type all motions are very slow, but accurate. Frequently there is a time lag in response to a command. This lag may be from 10 to 30 seconds and applies to speech as well as the arms and legs. If this time lag is not taken into consideration, serious errors can be made in intelligence evaluation. If one says to a child "say *dog*" and no response is forthcoming immediately, and one says "well then, say *cat*," the child is utterly confused, but if one waits sufficiently long before giving another command, the child will eventually say "dog." In the arms, the same would hold true. The command "pick up that pencil" might take 20 to 30 seconds before the arm began to move. Often it is possible, in a given child, to determine his specific time lag in response since it seems to be the same in all fields.

Thus, in the different types of cerebral palsy, there are specific mechanical difficulties more or less characteristic of the types.

Speech Difficulties Associated With Hearing Loss

Some degree of hearing loss is found in approximately 15% of the athetoid type of cerebral palsy, and to a lesser extent, of others. In the athetoid, in which the condition is the result of Rh incompatibility, the loss is of the

high pitch sounds, with fairly good hearing in the middle and lower registers so that hearing of noise is not impaired, but the ability to understand speech is limited. Many parents, when questioned, will state that the child's hearing is very keen—that they cannot sneak into the house at night without the child hearing them, or that the child can spot an airplane approaching before they are aware of it. Of course, the explanation is that coming into the house, they make assorted noises without pitch, and that in the case of the airplane, the sound of the engines is low pitched. These children become automatic lip readers because, unlike the totally deaf, they can hear the voice, and supplement the vowels, which they hear, with watching the motions of the lips. They also become expert with pantomine.

While aphasoid conditions are sometimes present, often the child reproduces what he hears but lacking many of the sounds, his speech is unintelligible to his listeners. Many of these children learn to understand the distorted speech they hear, as though it were another language, but are severely frustrated when what they say is not understood by others.

Variable hearing in also definitely found in these patients. In one girl, fifty audiograms were made under reliable circumstances and she was found to have variations from normal hearing one day to almost complete loss on another. Most of the audiograms were in the medium range of high pitch loss. This girl was very fond of answering the telephone, but on some days, would be sitting close to it and not hear it at all. In this type of variable loss, the speech is usually better than in a fixed loss, since on some days, these patients hear speech correctly.

In the fixed type of high pitch loss, the use of a hearing aid is not of much value in hearing because the patients have learned to understand the distorted speech, as has been stated. However, a tuned hearing aid, matching the audiogram will give the patient the chance to hear undistorted speech. Such a tuned hearing aid introduces many sounds not heard before and is only confusing for listening. Listening through such a hearing aid, to television an hour or so a day, helps greatly in speech training.

A group of such children who had tunable aids were asked to tune to what they thought was most satisfactory in both pitch and volume. They tuned to low pitch with very little volume increase because that tuning was what speech sounded like to them, but of course, this would not help at all in speech training. Thus, the constant use of a hearing aid in such children is only confusing except when speech training is in progress. Often a binaural head phone type of amplifier with good pitch control is most satisfactory during speech training sessions.

Speech Difficulties In Relation To Cerebral Dominance

In the cerebral palsies of the hemiplegic type, present since birth or occurring before speech is developed, the speech is delayed, if the hemiplegia is on the presumed inherited dominant side (usually right-handed). Under these circumstances, the child has to shift his cerebral dominance by becoming, for example, left-handed. This shift takes time so that one expects a speech delay of a year or so. The attainment of

speech under these circumstances depends on the ease or difficulty of completing the shift and the completeness of the shift.

In the last few years, many complete hemispherectomies have been performed for intractable epilepsy in hemiplegias without any effect whatever on the speech. These operations have been carried out on the right or left hemispheres depending on the affected side, proving that speech can be attained in either hemisphere. Thus, fixation of dominance to the normal hand should be completed as early as possible, and training of the affected arm delayed until speech has been well attained. A child from right-handed stock with a left hemiplegia would probably not have any difficulty with speech whatsoever. This situation parallels the findings in strokes resulting in hemiplegia in old people, who either lose speech or not, depending on where the side on which the stroke occurs is dominant or not. Loss of speech in such a situation is, of course, called aphasia, but whether this term is applicable to children who have never developed speech is open to argument. It is probably safer to use the term aphasoid (aphasia-like) since there are so many other possibilities for absence of speech in these children.

Speech And Language In Relation To Mental Development

Many surveys have been made, showing that approximately 40% of cerebral palsied children show some degree of mental defect as a part of the condition. In many of these, absence of speech or speech delay, not due to any of the factors discussed above, must be expected, but one must obviously NOT jump to the conclusion that mental defect is the main cause of the trouble. Often inexperienced teachers will demand a mental evaluation before starting speech training, but this should not be required because in institutions for the feeble minded, there are many children with very low I.Q.s who speak normally. The content of the speech may not be high, but function of the speech mechanism is perfect. It is, therefore, important to distinguish between speech training from the mechanical point of view and language development, since in the cerebral palsies, there are so many factors which have been described above, which could be mistaken for delayed language development.

Therefore, in order to determine the potentialities for speech and language in the young cerebral palsied child, it is necessary for the speech therapist and educator to be acquainted with the varieties of cerebral palsy involvement, and also to have been given the results of the examination of the patient and the specific type and degree of the handicap in the speech mechanism in the individual child. Hearing and dominance difficulties must also be determined. If teachers can be made aware of the entire problem, then methods of speech training and language development become greatly simplified.

Reading and Writing Disturbances in Adult Aphasics

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THERE is a certain amount of evidence to support the hypothesis that aphasia is a primary language deficit upon which specific perceptual, motor or sensorimotor deficit may or may not be superimposed (6, 8). If this is true it would follow that reading and writing would be impaired to the extent that they reflected the overall reduction in the amount of language available to the patient, in the first place; in the second place these skills might or might not be further impaired by other concommitants of brain damage.

General language deficit

In the purest form of aphasia, that is aphasia with no co-existing perceptual or motor disabilities interfering with linguistic processes, there is restriction of vocabulary and defective language formulation. The patient may mispronounce words, substitute words associated in meaning or experience with the desired word (that is, he may say chair for table, girl for boy, red for green), or he may become confused when he tries to express long or complex ideas. In general, difficulty increases in direct ratio to the length of the stimulus, or the length of the response which is attempted (4).

This general reduction in the amount of available language cuts across language modalities at all levels.

Suppose, for example, the examiner placed pictures of the following objects before the patient: *boy, girl, shirt, tie, bed, chair.*

Patients with extremely severe impairment would make errors pointing to the picture named by the examiner, and would probably not be able to name objects at all. Patients less severely impaired would point correctly but make errors naming, most probably confusing boy and girl, shirt and tie, and bed and chair.

If the reverse side of each picture contained the printed word and the cards were turned over and the same tasks presented, the same kind of errors could be predicted to appear, and to appear again if the patient were asked to write the same words to dictation or upon presentation of the picture.

If these tasks were repeated with a large number of aphasic patients it would be observed that in general patients had more trouble naming them than pointing to pictures named by the examiner, more trouble reading words than naming pictures, and more difficulty writing than reading. However, if with recovery or training the patient gained more language and became surer about the labels, speech, reading and writing would tend to improve simultaneously (4).

Three observations are of interest here. The first is that these patients must be considered to have a general language deficit which appears in all language modalities. It is true that reading and writing are defective, but they are defective only as they reflect a more general disorder.

The second relevant finding is that in general the most frequently-used words will be the best retained and the first to return in all language modalities, although in the beginning words with the strongest associative links will be most easily confused. For example, only the most severe aphasics confuse boy and chair; many on the other hand say boy when they mean girl, or write knife when they mean fork.

The third fact to be taken into account in these findings is that they apply to adults with previously-acquired language and previously-acquired reading and writing skills. In relation to young children they can only be considered to underline the necessity for careful evaluation of reading readiness in terms of language comprehension.

Patients who rarely have difficulty recognizing or recalling common words usually show some reduction of vocabulary if tested on less frequently-used words. This is found in all modalities, as may be demonstrated by the use of tests like the Ammons Full-Range Picture Vocabulary Test (1), in which the patient is asked to point to the picture which best illustrates the word spoken by the examiner, as well as standarized oral vocabulary, reading vocabulary and spelling tests which sample wide frequency ranges. Scores on all such tests increase consistently as patients progress towards recovery.

In general, errors increase not only as word frequency decreases, but also as the length of stimulus or length of response which is demanded increases. For example, patients who make no errors pointing to words singly, may begin to make errors when objects are named in series of two or three. Patients who can follow short directions make errors if two or three of these short directions are combined, or if longer directions are given. Patients who can repeat sentences of five or six words may have almost no success when sentences of eight or nine words are presented. Patients who can write sentences of four or five words to dictation, may break down when sentences of seven or eight words are dictated. Patients who can read a short paragraph with comprehension may fail altogether on one a few lines longer, if not permitted to re-read. Patients who name objects readily may break down when asked to define a simple word, explain the use of a familiar object, or tell how two things are alike.

The correlation of all of these errors with auditory retention span (indicated by digit repetition of sentences equated for difficulty but progressive in length), and also the decrease of errors in all modalities as retention span increases, seems to indicate that patients do not fail tasks such as similarities and definitions because they are more abstract than naming, for example, but rather because they demand more extensive vocabulary than is available and longer units of language than can be handled at a given time time. Reading and writing skills tend to lag a little behind speech, but to show the same kinds of errors at all levels.

One more observation is necessary. The name of a letter constitutes a word. Names of letters like names of objects may be elusive in aphasia. With a

general language deficit of even moderate severity aphasic patients tend to confuse letters with names that sound alike (such as BCDEGPTV, AHJK, IY), and letters closely associated in learning, usually through alphabetical sequence. Spelling offers still another hazard. In long words the sequence of letters or even syllables may exceed existing retention span, and spelling level be reduced for this reason.

Specific visual difficulties

A second group of aphasic patients is found who, in addition to the difficulties which have been described, have specific problems related to visual perception. This is on a cerebral level, and there is usually no loss of acuity. Errors are rarely made matching, for example. In all such cases studied at the Minneapolis VA Hospital there has been a visual field defect; however, all patients with visual field defects do not show the perceptual disturbances found in these patients (7).

These are dramatic in that the same kinds of errors appear day after day in all samples of the patients' writing, and they recur in patient after patient in this group. With a mild defect, patients merely tend to confuse symbols which look alike, both in reading and in writing, indicating that the disability affects both recognition and recall of visual forms. Both vertical and horizontal reversals are seen, as well as confusion of letters with similar visual configurations, such as WM, EF, LJ, ANHK, PBR, pbdq, hnur, and in script bf, hk, uw, gq and jy.

In more severe forms no letters are recognized or recalled, and all must be relearned with great difficulty. The errors cited above appear in early learning stages.

For these patients there is little or no difficulty associating sound and visual symbol, and reading and writing tend to return to former qualitative levels when the forms are relearned. Rate tends to be retarded, and minor errors to persist. For example, the patient might be able to read history and biography with good comprehension, although he might occasionally misread a word, interpreting *master,* as *waster,* or *drank* as *prank.*

Short words are recognized and recalled easier than long words, and spelling tends to be phonetic. There is special difficulty with silent letters and double letters, and oral spelling tends to exceed written spelling. The reason for this is readily apparent. The patient may spell the word correctly, then write a *u* or an *m* for a *w,* or a *q* for a g.

If perceptual difficulties are more severe the patient may complain of blurring of vision, and have difficulty following the line and keeping the place on the page. Words in any position in the line may be omitted because momentarily they are not perceived. Such patients not uncommonly confabulate to fill in the gaps. The reason for this is not obvious. It may be that the task is so difficult and so threatening that they habitually guess from imperfectly perceived cues, and the examiner is only aware of this when errors are made. This kind of performance may usually be reduced by placing a white card below the line, or having the patient follow from word to word with a pencil.

These perceptual disturbances are sometimes associated with spatial disorientation. When this is present patients have difficulty manipulating objects, dressing, locating objects and finding their way about. In adults this impairment is usually resistive to training

and is seldom reversible. It apparently results from reduction of sensory as well as of visual cues. For example, such patients cannot usually be taught to use a cane to avoid obstacles. Characteristically they stop when an obstacle is encountered, then proceed to walk directly into it, apparently not having received information permitting them to localize it correctly. The same sort of behavior occurs for visual cues. For example, a patient has been observed to recognize his wife entering the ward, and walk in exactly the opposite direction to meet her. Sometimes patients with this kind of disability learn to get along well in a setting which is familiar and circumscribed, but sometimes even this is not possible. Reading and writing seldom become functional for them, although they learn to spell aloud and recognize letters and even words in isolation.

Sensorimotor difficulties

The third kind of reading and writing disability found in adult aphasics is probably the most severe because it is part of an extensive language deficit. It is found in patients who combine a severe defect of auditory discrimination and auditory retention span with a sensorimotor disability.

In such cases there is no paralysis or paresis of the musculatures involved in speech, but the patient behaves as though he did not know where his tongue was in his mouth, for example, or how to move it in a desired direction or to a desired position. Hughlings Jackson described such patients who tried to move the tongue with their fingers, as though to show him that they knew what he wished them to do but were unable to perform it (2). This is in fact not uncommon behavior. It may be hypothesized that this loss of voluntary control stems from reduction of kinaesthetic and proprioceptive information, although impaired auditory feedback probably plays a role also. Certainly treatment combining intensive auditory stimulation is more effective than attempting to retrain movement patterns alone.

Visual patterns are intact. These patients can often learn to write a series of words by copying them a few times, or even by seeing the printed word in combination with a picture while auditory stimulation is being given. They rarely have difficulty with silent letters, and never with letter forms. However, having learned to write a list of words, they become totally confused if the same words are dictated in random order. What appears to be impaired is the association between visual, auditory and sensorimotor processes.

These patients confuse symbols whose names sound alike, but they also, interestingly enough, confuse sounds and symbols with similar positions of articulation and similar placement and movement cues, such as PBM (lip sounds), TDNL (tip of tongue), FV (teeth and lips) and KG (palatal).

Lieberman, studying the perception of speech, considers the possibility that proprioceptive as well as acoustic dimensions must be taken into account. He observes that when articulation and sound waves go in separate directions, perception always goes with articulation (3). These observations on aphasics tend to support this hypothesis.

These confusions characteristically appear on several or all of the following tasks, depending upon the severity of the disorder:

1. Pointing to letter named by examiner.

2. Pointing to letter when its phonetic equivalent is given by the examiner.
3. Naming letters presented visually.
4. Producing phonetic equivalent of symbol on visual cr auditory presentation.
5. Writing letter when name or phonetic equivalent is given.
6. Naming words beginning with a specified sound.
7. Oral spelling.
8. Written spelling.
9. Oral reading.
10. Repetition and spontaneous speech.

For example, one patient asked to name words beginning with specified sound, produced the following:

table, day, *to*, look
victory, vegetable, *funny*
cake, cookies, can, *get*, come
day, dinner, do, *time*
go, get, green, *can*
boy, bed, *perfect*, book

The same patient made the following characteristic errors on written spelling, during the same period (note the intactness of silent letters).

avraid for afraid
puild for build
beat for meat
gount for count
summer for supper

Another characteristic of the reading and writing disability of patients in this group is confusion of the "little words," such as it, is, in an, on, has, was, of and so on. This probably results both from impairment of discrimination of similar phonemes and the restriction of auditory, visual and placement cues in such words. Words like these have only contextual meaning, and in context, that is in connected speech, they are not pronounced clearly and cannot be heard distinctly. Neutral vowels are substituted for given vowels, consonants are elided, and in a sentence structure words have neither duration nor stress. The patient with severe auditory impairment cannot tell one from another even in isolation; in a sentence he simply does not hear them. Extensive and intensive drill with combined visual and auditory stimulation is required, using letters, words and short structural units which are meaningful, before such words can be discriminated and used correctly. When the patient can use them he does not usually have trouble reading or writing them.

Conclusion

It seems self-evident that the reading and writing disabilities of adult aphasics are not of one piece, but that various organic components of the disorder must be diagnosed and treated differentially.

In adults isolated defects of one language modality are extremely rare, if in fact they do exist. Instead there seems to be a general language deficit present in all patients which cuts across modalities. One function may be more severely impaired than another by virtue of co-existing perceptual, sensory, motor (cranial nerve) or sensorimotor impairment.

A final observation is perhaps pertinent. Most adult aphasics are highly motivated, emotionally stable, able to work intensively and to withstand considerable amounts of frustration. When extensive or generalized brain damage is present, this is not true. Such patients in contrast show emotional lability, fatigue readily, and tend to be unable to work effectively without constant supervision and encouragement. Organic psychoses sometimes accompany brain damage. Such patients are not usually amenable to treatment for aphasia.

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BOOK REVIEWS

DATING, MATING AND MARRIAGE. By Jessie Bernard, Helen E. Buchanan, and William M. Smith, Jr. Cleveland. Howard Allen. 1958. $4.75 (cloth) and $3.50 (paper).

This interesting book on dating, mating, and marriage is written from the viewpoint of young persons. The case-documentary method has been used to present the material. The volume is grounded on real and vital problems and the treatment is sociologically oriented. The book can serve as a supplementary text for courses in marriage and marriage problems. Guidance counselors and deans of students will find the volume of considerable use.—W. P. S.

THE CHALLENGE TO OUR UNIVERSITIES. By L. A. Duchemin, editor. Sackville, New Brunswick, Canada: Mount Allison University Publication No. 3. 1958. 108 pp. $.60 (from The Mount Allison Bookstore, Sackville, New Brunswick, Canada).

If an American observer were bold enough to characterize Canadian universities, he might express admiration for their firm belief in a hierarchy of values among the university disciplines. English caution, moral realism, and a keen appreciation of the function of knowledge are some of the solid substance reflected in Canadian higher education.

Canadian universities, like universities elsewhere, are facing new challenges in this decade of rapid progress. Conferences which bring together university leaders and learned men of allied professions are useful when their purpose is to probe the challenge of a new day. Twelve stimulating speeches made at such a conference are contained in this publication. The conference was held in August, 1958, at Mount Allison University, New Brunswick, whose extension department has for many summers presented similar significant forums. An international character pervaded the conference in the number of American university personnel in attendance, two of whose addresses are included. British and European representatives were also present. The published addresses will be useful to those interested in Canadian universities as well as those concerned with the problems universities everywhere face in this second half of a turbulent century.

Franklin Parker
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Disorders of Speech, Brain Damage and Learning Theory

AUBREY J. YATES
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THE possibilities of establishing direct relationships between structural characteristics and behavior has long exercised great influence in the various branches of psychology. Nowhere is this influence more easily perceptible than in the field of speech disorders. Much of the work involved has, of course, been carried out by neurologists and (to a lesser extent) by psychiatrists, but more recently there has been increasing co-operation between neurologist, psychiatrist and psychologist, notably the outstanding work of Bender and Teuber and their colleagues, to which reference will shortly be made.

With regard to investigations specifically directed towards the speech disorders and their relationship to structural changes in the brain, no attempts will be made here to review the present position since the whole field of speech pathology has recently been reviewed and brought up to date in Travis' monumental work (11). The author would rather concentrate on certain aspects of research in the general field of brain-damage, which can be easily shown to be vitally important in their implications for the treatment of speech disorders, but which are (significantly perhaps) totally neglected in Travis' *Handbook*.

Structure and Function

Before doing so, however, a few preliminary remarks are necessary. Psychologists have contributed notably to the problem of the relationship between structure and function. Two approaches of the many tried concern us here. The first of these relates to the *diagnostic* problem of demonstrating reliably that changes in structure have taken place. To this end, various "tests of brain damage" have been developed and used to distinguish between brain-injured and non-brain-injured individuals. It can be said without fear of contradiction that this approach has met with almost total failure, as is shown in the critical reviews of Klebanoff *et al* (6) and Yates (12). It has proved quite impossible to devise any tests of brain damage which will do other than detect the most gross forms of brain-damage—and these cases are, of course, easily detectable by simpler techniques than complex and time-consuming tests.

The second approach has resulted in a long and brilliant series of papers by Bender and Teuber and their colleagues! Briefly, their technique involves largely (but not wholly) working with cases suffering from penetrating brain wounds. Each individual is allocated to a group on the basis of decisions as to which area of the brain has been affected by the injury, e.g., left occipital area. In this way the effects of injury to every area of the brain has

been examined by correlating area damaged with performance on a very large number of psychological tests, designed to explore every aspect of function, e.g. spatial ability, tactual ability, etc.

Generally speaking, the results are quite clear-cut and highly significant. Brain injury, of whatever kind, tends to have a generally depressing effect on psychological functioning; that is, brain injured groups tend to do worse on all tasks than control groups.

Secondly, with few exceptions, the area of the brain damaged seems to be unimportant (with the usual exceptions of the effects of damage to primary motor and sensory areas). In other words, *the actual functional deficit resulting from brain injury cannot be predicted from even precise knowledge of the area of the brain damaged.* Thirdly, individual differences are very large within any given brain damage group, i.e. persons with apparently similar forms of brain damage may show widely different functional effects.

Apparent Behavioral Disorders

In the present author's opinion, the results briefly sketched above indicate clearly that a re-orientation in approach is required—and there are encouraging signs that such a re-orientation is taking place. It is contended that it is possible to treat the observable behavioral disorder without reference to any underlying structural changes that may be the direct or indirect cause of the disorder. This contention, of course, is in no way novel or original. It is a maxim which has been practised for many years by speech therapists in treating stammering and by educationalists in dealing with backwardness in school subjects. However, a wider view is here taken.

In a recent paper (14) the author has argued that these methods of treatment can also be applied to disorders where formerly their use was rejected on the grounds that the apparent behavioral disorder was merely symptomatic of some more fundamental underlying conflict. This "dynamic" view was rejected on a number of grounds and empirical evidence was cited to show that "symptomatic" treatment, i.e. a direct attack on the observable anomalies of behavior was successful in the case of enuresis (9), tics (13), frequency of micturition (5), phobias (8) and writer's cramp (7). Nor, in these cases, was there any evidence of the alleged "symptom substitution" which would have been expected if the "dynamic" theory were true.

The significance of these recent approaches, however, lies not in their empirical success but in the fact that they all make use, with varying degrees of rigour, of the constructs of modern learning theory and it is in this respect in particular that they differ from remedial teaching and speech therapy. It is, of course, perfectly true that it is a misnomer to speak of "learning theory" since there are many different theories of learning, each with a different set of constructs. Nevertheless, all of the above experiments have successfully used learning theory and it is interesting and important to note that, at the present stage of knowledge in psychology, the results obtained not only confirm or infirm the constructs used but may lead to new knowledge about them. Thus, the present author, in using the Hullian construct of reactive inhibition when treating a case of multiple tics, was able to suggest, on the basis of his results, that reactive inhibition declines

much more slowly than had previously been thought to be the case.

Speech Pathology

In the field of speech pathology, three examples will be cited to show the usefulness of the suggested approach. In the field of stammering, two recent examples are particularly instructive. Jones (4) was able to show that under conditions of massed practice, stammering showed a significant decline from first to last trial within a single session (due mainly to the accumulation of reactive inhibition) and a significant decline on the first trial of each day's practice (due to the growth of conditioned inhibition). Thus, not only was use made in this experiment of two major constructs of Hull's (3) theory of learning (reactive and conditioned inhibition), but the results provided further evidence in support of the validity of these constructs.

In the same field, the recent work of Cherry and Sayers (2) is a standing rebuke to the futile work of many psychologists in the treatment of stammering. These electronic engineers were able to show quite conclusively (and as a by-product of their main work, the properties of acoustical systems) that stammering is a perceptual defect, resulting from a faulty monitoring of speech processes. They were able to deduce as a result of their experiments a very simple technique of remedial treatment, namely that known as "shadowing," the fundamental principle of which is remove the stammerer's attention from his own voice production. This has the two-fold effect of stopping stammering immediately and thus of allowing correct patterns of speech to be learned. They have shown that it is a truism that you only learn to speak correctly by speaking correctly.

Finally, in the field of aphasia itself, Birch and Lee (1) have applied the methods of Cherry and Sayers and shown that by feeding into the ears a very prolonged note, patients suffering from severe nominal aphasia will be able to name without difficulty objects which previously they could not name. Their explanation is somewhat different from that of Cherry and Sayers (they explain the aphasia as due to inhibitory effects caused by brain damage —these effects can themselves be inhibited by a sudden loud noise, i.e. they are making use of Pavlov's well-known mechanism of the inhibition of an inhibition).

In Conclusion

It is obvious, of course, that so far we are merely scratching the surface of the problem of speech pathology. No one can say how successful this new approach is going to be. However, the author is convinced that neither the purely empirical approach nor the so-called dynamic approach will of themselves suffice. Psychologists must be prepared to make use of all the information available to them in treating speech defects and, in particular, should be prepared to master and utilize the constructs of modern learning theory. These constructs are not fixed and infallible guides to procedure, nor can they be applied blindly. It has been the author's experience that each case is truly unique and needs thinking out from scratch. Nonetheless, as more and more evidence and material is accumulated, learning theory should become more and more readily applicable.

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NOTES

1. It is impossible to list the large number of papers produced by these investigators and unfortunately no general summary of their findings has yet appeared. A typical recent paper is that by Semmes et al (10) on an analysis by locus of lesion of performance on complex tactual tasks after brain injury.

LEADERS IN EDUCATION XV

LEO J. BRUECKNER

LEO J. BRUECKNER, a native of Illinois, at an early age moved to Iowa. He received all of his collegiate education at the University of Iowa. For a few years he was a high school principal and a superintendent of schools in that state. Then he became a member of the research department of the schools of Detroit. After serving as a captain in the Psychological Service in World War I, he returned to Detroit to serve as Assistant Dean of the Detroit Teachers College for three years.

In 1922, Dr. Brueckner joined the faculty of the University of Minnesota where he served as Professor of Elementary Education throughout the remainder of his professional career. While there he became interested in instructional problems in the elementary school. His major interest was in the field of arithmetic, with special emphasis on diagnosis and the social applications of arithmetic.

In addition to being a distinguished teacher at the University of Minnesota, Dr. Brueckner's professional work may be divided between counseling service and writing. He counseled in many city and state educational surveys. The most widely known was the Regents' Survey in New York State in 1935-38. Dr. Brueckner was the director of the elementary section of that investigation. In 1947-49, he was the director of the work to reform the program of elementary and secondary schools of Germany under the Office of Military Government.

As a writer, Dr. Brueckner has been both versatile and voluminous. He has published over a hundred articles in professional educational magazines. For twenty years he served as editor of elementary education for the *Journal of Educational Research*. He contributed to many different yearbooks of both the National Society for the Study of Education and the National Council of Teachers of Mathematics. He was chairman of the 34th Yearbook of NSSE, which deals with diagnosis.

Dr. Brueckner is the senior author of five series of arithmetic textbooks for the John C. Winston Company. He is co-author of four books dealing with the teaching of elementary mathematics (Winston) and also a co-author of one of the standard books on supervision

(D. Appleton-Century-Crofts). The latter has passed through several revisions. Because he has written or co-authored several books on diagnosis and the treatment of learning difficulties (D. Appleton-Century-Crofts) as well as many diagnostic tests in arithmetic (Winston). His publications would fill the shelves of a small personal library.

Although Leo is predominantly a teacher and an author, he has other facets of life. He has a charming and talented wife and he is the father of three sons and a daughter, all of whom are winning recognition in their professions. His hobbies are travel, sports, and mountain climbing. He considers the climbing of the Grand Teton as one of his greatest achievements.

As one who has collaborated with Dr. Brueckner for twenty years, I feel I am in a position to give an evaluation of him as a person. I consider Dr. Brueckner a profound scholar in a wide range of subjects, a kindly gentleman considerate of the opinions of others, the possessor of tireless stamina and energy, and a man who activates his life by a high code of moral, spiritual, and ethical standards. He truly is an ideal teacher and co-worker.

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BOOK REVIEWS

STATISTICS IN PSYCHOLOGY AND EDUCATION. By Henry E. Garrett. N. Y. Longmans, Green. 1958. $5.50.

Those already acquainted with Garrett's excellent books on statistics will welcome this revision. This has been mostly rewritten, completely revised, and reset in a larger form. Those fundamentals of statistical methods most useful to students of psychology and of education are presented in clear and concise terms. Problems with answers follow the various chapters.—S. M. Amatora

STATISTICAL ANALYSIS. By Allen L. Edwards. N. Y. Rinehart. 1958. $4.00.

This is complete revision of an earlier revision containing much new material. It is so arranged as to present elementary statistical theory in a way that will be intuitively meaningful to the non-mathematically trained student. Illustrations are such as a student might follow readily and without wasting time tracing a course of involved calculation. A workbook is designed to accompany this text. This contains exercises that provide a review of the materials presented in the text and enable the student to test his understanding of the text and also to test his ability to apply what he has learned.—S. M. Amatora

EDUCATION FOR THE EXCEPTIONAL CHILD. By L. X. Magnifico. New York. Longman's, Green. 1958.

This volume covers the matter of identifying ability and disability, the methods most useful for improving the quality of education, and procedures for administration of special education programs. Included are chapters covering problems involved with the gifted child, the mentally retarded child, the socially handicapped, and the physically handicapped. A final chapter discusses the public school administrator and special education.—S. M. Amatora

DEMOCRATIC PROCESSES IN THE SECONDARY CLASSROOM. By Rosalind M. Zaph. Englewood Cliffs, N. J. Prentice-Hall. 1958. $5.75.

Dr. Zaph, of the Edwin Denby High School of Detroit, has written a very useful and utterly practical book in Democratic Processes in the Classroom. She attempts to relate the democratic principles and theories to actual classroom practices and in this attempt she succeeds eminently well. The volume gives step-by-step assistance to teachers who are seeking ways to conduct their classes in accord with the essence of the democratic way. The coverage is wide and most inclusive.—W. P. S.

What Schools are Doing in Correcting Language Disabilities

GUY WAGNER
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In planning for corrective measures in the several language arts, teachers and parents should distinguish between *in*ability and *dis*ability. The former refers to lack of resources—an insufficiency of innate power. Little, if anything, can be done to remedy this situation although good teaching may help the child to achieve to the limit of his capacity.

On the other hand, a disability means that something has happened to render an individual unable to operate at his potential level—he has become, for some reason, deprived of his normal powers to learn and do.

It is the obligation of classroom teachers to diagnose and correct the existing disabilities of their pupils. Of first importance, however, is the proper teaching (and timing) of spelling, handwriting, speech, reading, and listening so that disabilities will not develop. "An ounce of prevention is worth a pound of cure." And sometimes much more!

But there are some disabilities, particularly in the field of speech, that have already made pronounced headway by the time the child enters school. Whenever severe disabilities appear, the responsible teacher will call upon the help of a recognized specialist. In cases where disability has its origin in a physical defect, parents should be urged to have their child referred to a medical specialist.

It is clear that counsel from specialists in corrective work is helpful at all levels and imperative in severe cases. Well-prepared classroom teachers, however, can do a great deal of valuable corrective work. As a help to such teachers, a number of school systems have prepared handbooks which contain practical suggestions and procedures. Teachers will find the following handbooks to be especially useful.

University of Wyoming, *Diagnostic and Instructional Procedures in the Language Arts*. The Curriculum and Research Center, College of Education, Laramie, Wyoming, 1956. 198 p.

The completeness of this publication is matched only by its excellent and practical suggestions for diagnosis and corrective procedures. Following an introduction which explains the interrelationships among the language arts, attention is given the phsyiological, psychological, and environmental factors which accompany reading retardation. Suggestions are then made for diagnosis and follow-up instruction in reading.

There is also a chapter devoted to the analysis and correction of listening disabilities and a similar chapter which gives thorough attention to the problem

of spelling disabilities and their remediation.

Robinson, Helen M. comp. and ed., *Corrective Reading in Classroom and Clinic.* Supplementary Educational Monographs, No. 79, University of Chicago Press, 1953. 256 p.

Programs planned for the Sixteenth Annual Conference on Reading, under the central theme of the title above, included aspects of the programs involved in corrective reading for all grade levels K-12, plus college and reading clinic. Gives suggestions for discovering retarded readers, eliminating obstacles to effective reading, and diagnosing reading disabilities. Presents case studies of unique problems, discusses basic problems in correcting reading difficulties, and suggests ways to develop word recognition and improve rate and comprehension. Noteworthy contributions to this successful conference were criteria for selecting, and suggestions for using, materials and books for corrective reading in classroom and clinic.

Claremont College Reading Conference, Twenty-first Yearbook. Claremont College Curriculum Laboratory, Claremont, California, 1956.

Pertinent chapters dealing with the prevention and correction of language disabilities include "Reading With the Heart," "Facts About Vision Significant to the Classroom Teacher" and "Developing Criteria of Visual Performance for Elementary School Children."

Larrick, Nancy, ed., *Reading in Action.* International Reading Association Conference Proceedings, Volume 2, Scholastic Magazines, 33 West 42nd Street, New York 36, N. Y., 1957. 176 p.

A report of the highlights of the second annual conference of the Association devoted to aspects of the program "to improve the teachings of reading and the development of lifetime habits of reading at all levels."

Sections of the report concerned with building more effective reading skills at all grade levels and diagnositic procedures in remedial reading should be helpful to the teacher and clinician.

Dade County Public Schools, *Spelling and Handwriting in the Elementary School,* Bulletin 2C. Textbook Department, Board of Public Instruction, 320 SW-22nd Ave., Miami 37, Florida, 1957. 81 p.

The first section of the guide outlines the spelling program and sets up some helps to the teacher in handling instructional problems. The second part includes procedures for individualizing instruction as well as a section for the analysis of handwriting difficulties.

New York City Board of Education, *Toward Better Speech.* Curriculum Bulletin, 1952-53 Series, Number 5, 110 Livingston Street, Brooklyn 1, New York, 1953. 130 p.

Prepared to help the classroom teacher at each grade level (elementary through secondary) recognize the problems; gain the knowledges; and to assist in selecting materials and techniques suitable for her needs. The over-all plan includes material designed to help minor speech defects.

Redford Union Schools, *The Teaching of the Language Arts in the Elementary Schools.* 26440 Puritan Avenue, Detroit, 39, Michigan, September 1957.

This well-organized guide illustrates the more general-type guide in language arts in which some attention is given to remedial practices. It is pointed out that all children are not expected to reach a satisfactory level of achievement in the regular developmental program, consequently, remedial work is necessary. Upon diagnosis of the causes for inadequate achievement, the teacher may utilize some "follow-up helps."

In this publication, the *cause* is first given and this is followed by suggestions for reteaching. One example from the fields of writing and spelling follows:

Cause: Trouble with writing contributes to failure in spelling.

Suggestions: Watch writing speed and skill. Analyze writing. Give definite individual help with letter formation where needed. Give specific board instruction in grades two and three where teaching the child how to write the word is a big part of spelling. Spelling is a complex activity involving many skills; the child needs help in coordinating them.

Other valuable publications dealing with some phase of language disability include: (1) *A Manual for Reading Clinic Teachers,* St. Louis Public Schools, St. Louis, Missouri, September 1956, 76 p.; (2) *Speech Correction Techniques — Materials — References,* Division of Speech Correction, Chicago Public Schools, 1952, 70 p.; (3) *We Learn to Talk,* Special Education Department, Fresno County Schools, Fresno, California, n. d., 32 p.; and (4) *My Speech Book,* Public Schools, Kansas City, Missouri, Revised, September 1954.

DEPARTMENT OF BOOK REVIEWS

WILLIAM P. SEARS, Jr., *Book Review Editor*
School of Education, New York University

MAN THE MAKER: A HISTORY OF TECHNOLOGY AND ENGINEERING. By R. J. Forbes. N. Y. Abelard-Schuman. 1958. $5.00.

This one-volume history of man's development as a tool-making animal can be read with interest by all who are concerned with recent developments in technology and engineering. More especially, the book should be "required reading" for all teachers of the industrial arts, the trades, and the technical subjects. The present edition is a revision and an enlargement of an earlier one that appeared in 1950. From prehistoric days to the immediate present, the author traces man's use of tools in his struggle to control nature and to utilize the environment for the satisfaction of his needs.—W. P. S.

ADOLESCENT DEVELOPMENT IN AMERICAN CULTURE. By Harold W. Bernard. Yonkers. World Book Company. 1958. $5.75.

The author of his text in adolescent psychology states that the tone of the volume is fundamentally optimistic. This does not mean that the volume neglects to point out the ways in which adolescents fail. Rather, the book stresses varying degrees of success that adolescents display as they progress toward maturity. The major emphasis is on the role of culture in creating the problems of adolescents and in shaping their behavior. The importance of the family, the community, the school, and the working world—in short the cultural milieu—is stressed. Parents, counselors, teachers, and adolescents can study this book with profit to themselves and those with whom they associate.—W. P. S.

EARLY EDUCATION OF THE MENTALLY RETARDED. By Samuel A. Kirk. Urbana, Ill. Univ. of Ill. Press. 1958. $6.00.

Because of his slow learning ability, the mentally retarded child cannot keep up with the requirements of the regular class. The present volume is a complete description of a five-year experiment on the effects of preschool education on the mental and social development of 81 mentally retarded children between the ages of three and six years. The authors show that mentally retarded or defective children can progress at a rate of growth to a significant degree through school experience. Though educational stimulation does not cure mental retardation, it can improve the functioning level of many of these children if presented early enough. The author points out the kinds of mentally retarded children who can be improved most through early educational opportunities.—S. M. A.

VIEWPOINTS

The Schools Belong to the People — Not the Teachers

EARL H. HANSON
Superintendent of Schools, Rock Island, Illinois

Some say that education is so complicated that trained professionals should decide its issues without interference from amateurs. They point out that a smart layman doesn't diagnose his own case and prescribe treatment, but trusts the doctor for that. Education, they contend, is nearly as complicated. It involves determination of curriculum, selection of study materials, complicated understanding of and decisions about children, grade leveling of course offerings. It demands complex knowledge of how people act as individuals and as groups, and practiced skill in managing behavior.

To be a teacher demands much more than doing what comes naturally. A teacher to be successful needs more education than a psychiatric social worker. Since that is so, let the educator decide what shall be taught, how to teach, who should become teachers and how they should be educated. That's the demand of many.

Others say teaching is not as complicated as the educationalists claim. It's as simple as common sense. Any intelligent person who knows his subject can teach it, and any alert layman can decide what he wants his child to be taught. Teaching is a simple matter of obeying the orders of the school board and firmly demanding that the children do as they are told.

These are the opposite ends of the axis, and as is usually a fact the truth lies somewhere near the middle.

It is true that teaching is complex and that a professional is required to do it right. Even a single element, class control, is an intricate task which needs careful training to perform. Often the cockiest of laymen confronted with a group of children to manage are forced ruefully to admit that teaching isn't as simple as it looks. Much must be left to the profession if education is to be successful. Such things as how to teach reading, grade leveling arithmetic, the use of academic and psychological measurements, the content of teacher education should largely be decided by the profession of education as a whole, including the academicians. Not that the parents and other lay folks should be left out—far from it; but that in these matters the "doctor's" voice should carry real authority.

Final decisions on educational policy, however, must rest with the whole people, including the profession of education, because what we teach and how we teach it determines the kind of social order for the next generation. The teachers may not dare to build a new

social order, but if they dared and the people did not stop them, they could. I include *how* we teach as well as *what*, because autocratic school structures and class methods condition the children for an autocratic society even more than does propaganda in the course of study.

When the people lose control of their schools they also lose control of the direction of their society. The analogy often used by us of the doctors' control over medicine is not accurate. Medicine does not determine the social order; education does. America has faith in the natural right of all of the people to determine for themselves the character of their social order, and I am sure it will not surrender that power to us, the pedagogues. One of the reasons, I think, that the national government was not given power over the schools was to make it extremely difficult for any strategically placed person or group to seize control of the whole educational system. By vesting authority over the schools in the states and the states in turn by delegating much of it to the local district, control is so diffuse that it is nearly impossible for any group to seize the educational system. This, I believe is as it should be.

One thing all schools districts have in common, however, is devotion to the same purpose. That purpose grows out of the basic belief, the basic character of the American people. It is the corner stone of the houses of government and the houses of education. It was expressed in the Declaration of Independence proclamation that "All men are created equal." America made this faith balanced and practical through an unequaled Constitution.

Other nations have had glimpses of that tenet. Among them was ancient Israel, but the concept was not whole with her because she would not share it.

Greece had the vision, but she did not see clearly because she limited her democracy and respect for the human soul to a few bright and free persons called the "elite."

Rome had some of the truth, but it was covered with a thick skin of brutality.

England had much of it, but at least until lately the truth was hampered by colonialism.

France literally shone with it, but time and again she has been rendered ineffectual by anarchy.

Our people quickly recognized that this faith could be real only if all the people, not just the "elite," were educated and taught to control their emotions and to use their intelligences.

This teaching is the job of American schools.

Most of the complex decisions which need to be made in the profession of education should be chiefly determined by the profession itself. The people increasingly respect education and educators as a profession and as professionals and actually leave those matters to them. The foundation decisions, however—what to teach, how to teach it, and for what purpose—the people will not leave to us alone, because to do so would be to establish a dictatorship of the pedagogue.

THE EDUCATIONAL FRONTIER

A Dream of Self-Realization

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THE dream of most parents for their children is the full development of their powers and capabilities; they desire for them the happiness that comes with the full flowering of the personality. Deep within the normal mind is the craving for achievement, for an ample competence, for the quiet consciousness of a simple dignity. It is the gratification of this tropistic need of the person that delineates the distinctive trend of human history—the irrepressible struggle against slavery of all kinds—the impulse to be *free* as the prime requisite of self-respect. Matthew Arnold saw this principle clearly and enunciated it precisely in the Introduction to *The Popular Education of France* (1861):

> Life itself consists, say the philosophers, in the effort *to affirm one's own essence;* meaning by this, to develop one's own existence fully and freely, to have ample light and air, to be neither cramped nor overshadowed. Democracy is trying *to affirm its own essence;* to live, to enjoy, to possess the world, . . . So potent is the charm of life and expansion upon the living: the moment men are aware of them, they begin to desire them, and the more they have of them, the more they crave.

This to me is the basic aim of all democratic education. If the methods and the activities of the school serve this purpose, I shall call them good; if they subvert or frustrate this fundamental aim, I shall call them bad, no matter how much factual knowledge nor how many basic skills they may inculcate.

Now most educators, of course, will agree with this generality, but there are many subtle and elusive factors hidden in the test. Mores are learned by example, by the personal witnessing of the patterns of human action—not by precept nor admonition when these are contrary to the obvious patterns of action. Children will surely do the things that we do, not those that we say.

And so it is that our fine words so often come to nothing. It is easier to agree on the sentiments than on the practices of democracy. Hidden beneath the achievements of our rising culture, there is the long history of our climb from barbarism, our slow evolution out of the primitive psychology and the savage methods of our forebears. The level of our humanity at any moment—what we call our humaneness—is always relative: so much we have attained; so blinded are we still be the encircling primordial darkness.

If we are to win to fuller self-realization for our children, we must revise our practices again and again, and patiently apply our newer insights to the achievement of a still greater freedom. Here, and for this purpose, are some of the principles that I think I must exemplify for the people whom I teach:

1. Never by word or act to assume the authoritarian, knowing that my bad example will stamp in a pattern of conduct that I do not want to accept in others, because their dominance of me would restrict my freedom and abridge my self-respect.

2. Always to be forthright and unsubtle in the expression of opinion and in the reporting of experience—that is, always to be myself an open book.

3. Always to assume the tentativeness of present knowledge and to communicate the continuing necessity to consult the "know-how" and the judgment of others.

4. Never to overlook the chief lesson of human uniqueness—that is, to realize that the composite strength of society lies in the funded talents and experiences of all its people, particularly in their diversity and not in their uniformity.

5. Always to eschew the historic tendency in education to standardize the learning of unique individuals by undeviating adherence to prescribed curricula and rigid courses of study.

6. Always to see in the uniquenesses of children a justification for their own assumptions of equality and self-acceptance. To realize that the dominance of one person by another belies these assumptions and destroys their very essence.

7. To promote what I consider to be the universal creativity of learners as the only dependable motive power for self-realization, knowing that this will often express itself in unique ways according to the special talents and the personal ambitions of each person.

8. To realize the cohesive power of the culture itself as the true limiting and guiding factor in the self-selection and the self-realization of children; to rely confidently on the human derivations of the culture and its human appointments to attract and to invite all new entrants into its progressive organic movements.

9. To prize and to protect the common disciplines of the culture, knowing that these too have arisen out of the composite human genius, and that they offer, by virtue of their human origins, ever-beckoning attractions to the exercise of creative endeavor toward the continued advancement of the culture.

10. To welcome change as the desirable and inevitable condition of all living organisms, including the culture; to realize that constructive change is the prime requisite to all improvement, which is the object of all man's dreaming and contriving in his endless effort to fashion for himself a better world.

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